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EDITORIAL

★

ORGANISATION

A RECENT thought-provoking editorial by Austin Forsyth, G6FO, is outstanding for its clear headed approach to a problem which is giving much concern to those concerned with the future of Amateur Radio activity.

Trends at the I.T.U. Conference at Geneva and ideological clashes at U.N.O. emphasise the realistic nature of G6FO's proposal.

We therefore feel that the relevant parts of his editorial merit reproduction hereunder.

"Amateur Radio activity is on a world-wide scale and at the present time there can hardly be less than 200,000 A.T. stations on the air—with perhaps another 100,000 or so in various stages of suspended animation, retaining their interest and keeping in touch through the literature, itself an important sector of the field of radio publishing.

"In spite of the pressure of this activity and the global nature of our branch of the art of radio communication, the organisation of Amateur Radio, looked at internationally, is loose and indecisive, and therefore weak and ineffective..." (A situation which will remain as long as Russia and the iron curtain countries generally stand aloof.)

"The need is, therefore, for a truly representative international body, with new aims and objectives, which will include as many as possible of the nations of the world irrespective of their political (or ideological) affiliations."

The W.I.A., realising that the time had come for a more virile organisation to represent and lead the Radio Amateurs of the world, also appreciated the fact that heavy demands would be made on the financial resources of such an organisation, if it was to be really effective.

Our representative to I.T.U., the late John Moyle, was therefore instructed to take the opportunity afforded by informal meeting of representatives of member societies of the I.A.R.U. present in Geneva, to propound the idea of an expanded I.A.R.U. organisation financed by all member societies.

We are therefore well able to appreciate the advantages of the solution proposed by G6FO—

"A solution might be found to lie in making Amateur Radio, in the international context, one of the branch activities of U.N.E.S.C.O.—the United Nations Educational, Scientific and Cultural Organisation. The advantages are manifold, and obvious. Operating under the charter of the United Nations, with its headquarters in Paris, U.N.E.S.C.O. is represented directly or indirectly in all the world's capitals, and is an international body of considerable authority. It disposes of funds totalling nearly £10m. annually, and one of its objects under its own charter is to promote collaboration among the nations by education, science and culture—and who could say that Amateur Radio is not at once educational, scientific and cultural, as well as being, by its very nature, almost forced to the ideal of international collaboration.

"To be clearly identified with U.N.E.S.C.O. would strengthen immeasurably the whole fabric of Amateur Radio, without in any way affecting the rights of individuals or the freedom of action of national groups within their own parishes.

"The only question is—Would U.N.E.S.C.O. be prepared to accept the commitment?"

—FEDERAL EXECUTIVE.

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Audio Limiters, Clippers, and the use of Silicon Diodes as Compressors

L. H. VALE,* VK5NO

IN order to fully modulate transmitters with speech it has been found advisable to use limiters. Because of the nature of speech it is possible to clip off the highest peaks without affecting intelligibility and this allows the average speech power to be increased rather considerably. If the limiting circuit is set so that it is not possible to overmodulate the carrier, i.e. the limiter functions at, say, 90% modulation, we can also be sure that no overmodulation exists, and it will not be necessary to continually monitor the modulation percentage.

The disadvantages of using a limiter are as follows:—

- Speech quality suffers—it becomes "unnatural" but not unintelligible, due to the restriction on dynamic range.
- Because of the increased gain being used at low levels any audible background noise is much more apparent during speech pauses. This background noise drops down to its normal relation to the voice signals when limiting, but this constant fluctuation of the background also adds to the unnaturalness of the transmission.
- Rather severe limitations are placed on the frequency response of the modulation system; this will be discussed further below.

Limiting can be done anywhere in the system between microphone and modulated stage—in fact the modulated stage itself automatically clips the negative peaks at full modulation but so sharply and drastically that the harmonics generated produce sidebands that spread over a wide frequency range. This, of course, is the "splatter" that we must avoid at all costs.

It is not possible to limit, or in any other way amplitude-wise distort, an audio signal without affecting its harmonic content, and if we are to achieve a worthwhile increase in overall audio level, the harmonics added to the speech will be powerful and will occupy a very wide frequency range; if we modulate the transmitter with this limited (or distorted) signal directly then we should produce rather more splatter than if we merely overmodulated the Class C stage; it, at least, only limits the negative peaks.

It is necessary then, to filter out the harmonics generated by the limiter before the audio signal is used to modulate the carrier. This is normally done by using a filter that attenuates all frequencies above three thousand cycles, and if this filter is placed between the

modulator and Class C stage it will also attenuate the harmonics produced in the modulator itself. Clipping or compressing always wastes some of the audio power so this is a major argument in favour of limiting early in the audio system where the powers are so much less. This is known as low level limiting.

However, there are another two factors which tend to make it desirable to limit the peaks as late as possible in the audio system.

Firstly, of course, if we limit the audio early in the modulation system, any change of audio gain after the limiter will correspondingly change the modulation percentage. As the gain of an audio system changes with variations in supply voltages, then some method of stabilising the gain after the limiter is desirable. The easiest method is to employ negative feedback around as much of the amplifier as possible; this need only include the stages prior to the modulator itself, because voltage supplies to the modulator and Class C stage will vary together anyway. If the modulator is Class B or AB2, then heavy negative feedback on the sub-modulator is desirable in any case, to reduce the source impedance looking into the modulator grids.

Secondly, Fig. 1(a) shows a sine wave and Fig. 1(b) shows the same signal clipped to allow a 6 db. increase in average level. If the clipping were

extreme cases as shown in Fig. 1(d) lines have been drawn to show the comparison between amplitudes of the unlimited and limited signal and it will be seen that if the effect shown in this diagram takes place (as it must do to some extent, unless we use clipping after the modulation transformer and/or choke, or unless we are using an audio system direct coupled throughout), then limiting will not necessarily keep the modulation percentage constant at all frequencies.

The slope at the top of the cycle in Fig. 1(c) is inversely proportional to the ratio of the low frequency cut-off frequency after the limiter to the frequency of the signal being limited. It is a function also of the amount of limiting—the less drastic the limiting, the smaller the width of the flat top, and therefore the smaller the amount of slope. It will also be seen that if

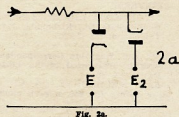


Fig. 2a.

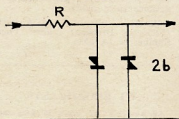
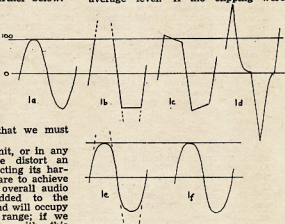


Fig. 2b.



Figs. 1a-1f.

done between the modulation transformer and the Class C stage and there were no other components between the limiter and Class C stage, then Fig. 1(b) would represent the wave form of the modulation. However, if there are any circuits between the clipper and the audio output which tend to reduce the low frequency response—such as coupling condensers, transformers, etc.—then the wave form of the amplifier output tends to become as in Fig. 1(c) and in

the limiting is less sudden than in Fig. 1(b), making a corresponding waveform for 6 db. clipping something like Fig. 1(e), the modulator that produced the output 1(c) will now give an output more like 1(f). The harmonic reducing filter will also tend to round off the corners of the waveform a little, and further reduce the peaks, but as this effect is more troublesome at lower audio frequencies and the filter is effective only at higher frequencies, its effect will not be very great.

If we clip so as to allow 95% modulation rather than 100% on higher audio frequencies, then the cut-off frequency of the modulator system after the limiter must not be greater than three-tenths of the signal frequency for 6 db. clipping, or one-quarter of the signal frequency for clipping approaching 100%. These figures apply only in the impractical case of perfect flat top clipping and no subsequent low pass

* 573 Main North Rd., Elizabeth North, S.A.

filter; but they do show that the low frequency cut-off after the limiter determines the allowable low frequency response previous to it.

Unfortunately most transmitters use high level modulation with modulation transformers, and as the size and cost of these transformers is proportional to their low frequency response, this tends to limit the cut-off frequency after the limiter to around about 200 to 300 cycles in normal cases. Using our previous figures, this indicates that our input audio must cut at, say, 1,000 cycles, which would result in very thin modulation, therefore it becomes apparent that compression resulting in the waveform shown in Fig. 1(e) is more useful than clipping, because it tends to remove this severe limitation on input amplifier low frequency response.

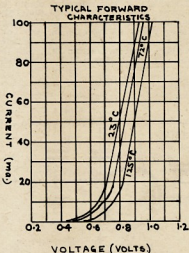


Fig. 3.

In any case, however, it should be taken as a first principal of design that low frequency reduction should be done prior to the limiter and high frequency reduction afterwards.

A compressor generates fewer harmonics than a flat top limiter and thus needs only a simple high-cut filter to avoid splatter.

The foregoing can be summarised as follows:—

1. High level limiting versus low level limiting:

- High level limiting avoids the problem of "droop" due to subsequent inadequate low frequency response.
- Because of the size of components in both limiter and harmonic filter, it is more expensive and less flexible than low level clipping.
- Means must be used to stabilise the audio gain between limiter and modulator if low level limiting is used.

2. Clipping (flat top) versus compression:

- Clipping is, in itself, more efficient in that more audio output power for a given input is generated; but this is of doubtful practical value.

(b) Compression reduces the effect of "droop" and therefore allows a greater low frequency response before the compressor.

(c) Compression generates less higher frequency harmonics than limiting, allowing simpler harmonic filters.

(d) It will be shown that compression is simpler to achieve.

From the above, it will be seen that, in the writer's opinion, the best approach to limiting, for Amateur use, is low level compression, because it offers both efficiency and simplicity.

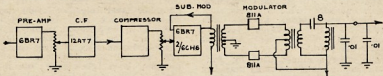


Fig. 4.

The main difference between a clipper and a compressor is shown in Fig. 2. Fig. 2(a) shows a simple clipper circuit. Equal voltages E and E_2 prevent the diodes conducting until the audio peaks reach the same value, when the diodes conduct and effectively short the signal out, resulting in an output waveform similar to Fig. 1(b).

Fig. 2(b) shows a compressor circuit. At first glance it would seem that the back-to-back rectifiers would short the audio out completely, one rectifier shorting the positive peaks, the other the negative peaks; but a characteristic of most semi-conductor diodes is that they still have quite a high resistance in the forward direction until there is considerable voltage drop across them. A curve of this characteristic in a silicon diode, a Ferranti ZS type, is shown in Fig. 3. The curve is typical of all silicon diodes. The value of R determines the voltage at which compression occurs, the lower the resistance, the higher the output voltage peaks. A value of $3K$ is used here and the output voltage is about one volt, peak to peak.

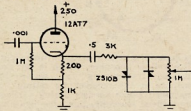


Fig. 5.

A modulation system which has been used at VK5NO for more than a year is shown in block form in Fig. 4, and the limiter circuit is shown in detail in Fig. 5.

Referring to Fig. 4, the method of setting the system up for full modulation is as follows: Looking at the modulation in an oscilloscope, and with VR2 turned on so that the audio waveform can be seen, turn VR1 up until compression becomes apparent, i.e. until an increase in input voltage does not cause a further increase in modulation. After that, adjust VR2 until modulation is just under 100%.

In Fig. 4, the harmonic filter consists of the choke L , which is low tension supply filter choke, and the two $0.01 \mu F$ condensers. One is mounted with the choke, and the other is the sum of the r.f. by-pass condensers in the modulated stage.

Since installing the compressor, there have been no complaints of splatter, even though we live in a Hamwise thickly populated area (although to be fair, both VK5NQ and myself consider ourselves c.w. types and the telephony is not often used). Listening from some distance away the signal sounds clean,

but very thin, and probably we've taken the low frequency cutting in the pre-amplifier further than we need to have done.

We have had several reports that the compression is obvious, and that the background is high, giving the unnatural effect referred to earlier in the article.

However, I consider that compression is the most effective and cleanest way of getting as much modulation as possible on to a carrier.

R.S.G.B. 21/28 Mc. TELEPHONY CONTEST

The rules are the same as in previous years, but the attention of overseas contestants is drawn to the additional bonus for working each additional ten G3 stations irrespective of band. The G3 series comprises the largest single group of U.K. stations.

The Contest will start at 0700 G.M.T. on Saturday, December 3, and end at 1900 G.M.T. on Sunday, December 4, 1960.

An exchange of RS reports followed by a three-figure serial number starting with 001 for the first contact and increasing by one for each successive contact (for example, 58001, 58002, etc.) must be made.

Scoring for overseas stations: Each completed contact with a British Isles station will score 5 points. In addition, a bonus of 50 points may be claimed for the first contact with each British Isles country-numeral prefix. A further 50 bonus points will be scored for each additional ten G3 stations worked irrespective of band.

In conjunction with this Contest, a Receiving Contest is being held, and is open to short wave listeners throughout the world.

Overseas entrants may only log British Isles stations in contact with overseas stations for points. Each complete log entry relating to a British Isles station heard will score 5 points. In addition, a bonus of 20 points may be claimed for the first station heard in each British Isles country-numeral prefix, i.e. G2, G3, GM4, etc., and further bonus of 50 points will be scored for each additional ten G3 stations logged irrespective of band.

Try Remote Tuning for Your 50 Mc. V.F.O.*

B. CLEWORTH,† VK5ZBZ

THE stability of any v.f.o. will only be as good as the frequency determining coil of the oscillator and one or two external factors influencing its behaviour. Moreover, any stability faults which are present in a v.f.o. will be very exaggerated when the frequency is multiplied many times to drive a 50 Mc. final, although the v.f.o. might give acceptable results on some of the lower frequency bands.

Consequently, if the frequency determining components are "housed" in a semi-remote metal box, so that heat variations can be minimised, then one of these "external factors" has been eliminated.

Incidentally, if there is any doubt as to the effect of heat variation, then I suggest the reader beat a v.f.o. against a suitable crystal carrier in his receiver and whilst gently breathing "hot air" onto the oscillator coil, observe the large and rapid change in beat note.

The dimensions of the remote control box should be such that the proximity

would be an acceptable substitute. Then two pillars made from $\frac{1}{2}$ " polystyrene are used to support the coil as shown.

The trimmer capacitor C1 and the tuning capacitor C2 should be good quality ceramic insulated double bearing types, C2 being a three-plate double spaced miniature. Silver mica capacitors are also used where indicated.

It is also important to mount the coil rigidly on the surface only of the box and connect to it via flexible leads to reduce the possibility of extraneous vibration reaching it.

Before leaving the remote control box, it is stressed that the dial drive must be mechanically efficient and have an appreciable reduction ratio, although the writer initially used a cord drive with good success.

The circuit of the v.f.o. follows standard practice except for possibly one or two points.

Two voltage regulator tubes were used because there were several on hand. One regulates screen voltage to

the oscillator and the other regulates plate volts. However, the screen is the important electrode and a VR tube is essential here, otherwise variations in h.t. voltage would most certainly result in frequency drift.

The oscillator is a Clapp followed by a single buffer stage from which output is transferred via a coupling condenser to the exciter stages of the transmitter. Alternatively, a low impedance winding and co-ax can be used. It will be noticed that the plate coils of the tubes are resonated with the output capacity of the tubes to obtain broadly resonant circuits. Both these coils are resonant at about 8.35 Mc. and the oscillator coil in the remote tuning box at half this frequency.

The tubes specified have proved satisfactory. Originally two 6AC7s were used, but the 6AG7 buffer gives slightly better output. A ceramic socket for the oscillator tube is desirable.

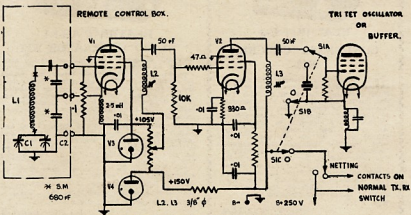
In using the v.f.o. on the air it has been found necessary to provide switching circuits to cut the h.t. to the v.f.o. when operating from crystal, otherwise spurious "spots" often appear on either side of the fundamental, caused by the v.f.o. energy being capacitively coupled by stray means to the first tube in the transmitter. The v.f.o. and switching circuits are shown herewith.

Only one switch need be operated to change from v.f.o. to crystal and vice-versa, although once v.f.o. operation is "mastered" and the advantages realised the switch will always be in the "v.f.o." position.

The cost of the v.f.o. is less than the price of a crystal, assuming the use of some "junk box" parts. This circuit in its "basic" form is used by at least two six-metre stations, although the one in use at VK5ZCR has no remote control and varies in detail, but by proper attention to the frequency determining coil a very high standard of stability is obtained. The note is also very good.

REMOTE CONTROL BOX.

TRI TET OSCILLATOR
OR
BUFFER.



*—Silvered mica condensers.

L1—See text.

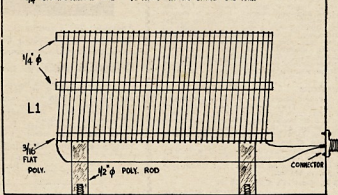
V1—6AC7. V2—6AG7. V3—VR105. V4—VR150.

S1—Three-pole two-position wafer in the v.f.o. position.

of the metal will not damp the Q of the coil. The minimum clearances are half the diameter of the coil either side of the coil and diameter spaced at the ends of the coil. The ideal box would probably be one made from cast aluminium with $\frac{1}{2}$ " wall thickness, if such facilities are available. Alternatively, if sheet metal (aluminium, copper or brass) is used, the gauge should be heavy so as to provide a completely rigid container.

In the v.f.o. described, the coil is air wound with 43 turns of approximately 20 gauge spaced one wire diameter. Four pieces of $\frac{1}{2}$ " polystyrene rod are cut to the length of the coil and glued to the coil or grooved to accept the turns of the coil to act as bracing supports for the turns. The diameter of the coil is $\frac{1}{2}$ ". A large ceramic former

$\frac{3}{4}$ " SPACING AROUND COIL - 43 TURNS 20 GAW. SPACED ONE TURN



Elevation of Box. Flexible leads are used from coil to condenser and co-ax sockets. Twin co-ax or two lengths of single co-ax connects to remote box.

* Extracted from South Australian Division W.I.A. Journal.
† Flat 5, Transmere House, Kingsgrove, Transmere, S.A.

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Wgt. 7 lb. Size: 7 1/2 x 4 1/2 x 4 1/2 in.

PRICE: £24/14/0



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Vertical Channel: Sensitivity: 0.025 volts (r.m.s.) per inch at 1 kc. Freq. response: Flat within plus or minus 1 db. from 0 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc. Response at 3.58 Mc., minus 2.2 db. (All response measurements referred to 1 kc.) Rise time: 0.08 micro-seconds or less. Overshoot: 10% or less.

Horizontal Channel: Sensitivity: 0.3 volts (r.m.s.) per inch at 1 kc. Freq. response: Flat within plus or minus 1 db. 1 c.p.s. to 200 kc. Flat within plus 3 db. 1 c.p.s. to 450 kc.

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Distortion: Less than 0.1% to 20,000 c.p.s.

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10,000 ohm/V. AC

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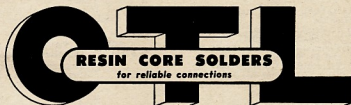


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FEEDBACK

Hear about the ardent DXer who thought 230VAC was a new country?

★

It is human nature to complain about things not being done, but when a responsible body says this will be done, then does nothing, it leaves itself open to adverse comment. Earlier this year every Amateur was promised a full report of the I.T.U. Conference, but this has never been issued. To my mind this report will now serve no useful purpose because the Ad Hoc Committee on Frequency Review is meeting and they will, or should I say are unlikely to be influenced by this report. It would be better to conserve this money for establishing a fund or create a memorial tribute to the late John Moyle. Publishing a report upon the past I.T.U. Conference is only providing history, not progress. You contributed to this Fund so it is your money, thus you should have a say in how the funds are now to be used. Do you want a copy of this report? If so, advise your Federal Councillor so that a majority rule can say if it is to be published. It is incorrect to say because this was agreed in the past, it must be done. Surely it is commonsense to revise ideas in the light of passing events. The action is in your hands, so discuss this matter at your general meeting and ensure your money is correctly used.

★

That funny man is again on the air. When asked what is 6N7, he replied thirteen. Well you asked for it.

★

What happens to the promised articles in "A.R."? Reading through past issues note that we were promised some details of an early v.h.f. meeting held in N.S.W. What's the matter, waiting for history to occur, or has the matter been forgotten? In addition, note that some articles suggest that they will be followed by further details, but these do not always appear. Why?

★

Congratulations to the Pub. Com. upon the October issue, very good.

★

Emphatically deny that a Yagi is a Hindu Holy Man.

★

Was told that the t.v. man was not amused when an Amateur type told him the sync. was in the kitchen.

★

Have been seeking opinions whether H.F. makes pages pink.

★

Bet that shop is sorry they were so abrupt to the customer who asked for a crystal set. The layman still does know they are called transistors and that shop lost a nice sale of good gear.

★

Hope that they act upon Correspondence and abolish c.w. tests, nothing like complete freedom. C.w. is still the most used Amateur means of communication and has yet to be bettered for reliable working with simple gear.

TJ, CASEY.

SLOW-SCANNING T.V. WITH ELECTROSTATIC C.R. TUBES

(Continued from Page 4)

ed because the 8 or so watts of 1 Mc. stray r.f. energy may creep over the back-fence. As an alternative to r.f. supplies, voltage doubling arrangements if you have the components, are equally suitable.

Another electrostatic tube, the American 3FP7, seems to be available only in VK2. This three-inch P7 phosphor tube is of the post-deflection acceleration type, and has the disadvantage of requiring 4,000 volts for post-acceleration. Under normal circumstances, it appears that the tube operates quite well even without this 4 k.v. potential, the post-acceleration electrode being connected directly to A3. With normal electrode voltages, the deflection sensitivity is 250 volts/inch (d.c.) for one set of plates, and 180 volts d.c./inch for the set closest to the electron gun. These voltages are approximately three times those required by the 5BP1 for the same deflection arc, giving some idea of the deflection voltage amplifiers required.

The VCR517C, which is by no means in plentiful supply, has similar phosphor characteristics to those of the VCR87, but this tube needs only 2-3 k.v. under normal conditions and can thus be used with the usual VCR97 tube networks.

Apart from the 3 inch and the two 6 inch tubes, there does not seem to be any others suitable for slow scanning, whilst still having long persistence afterglow-type screens for the receiving end. In this respect, the short persistence P5 and P11 tubes are only useful for the transmitter, a long persistence tube being necessary at the receiver in any case. One P7 tube can therefore be used both for scanning a transparency and displaying an image, with simple switching for the two functions.

Fortunately the 3FP7 has an almost flat face-plate, but the English VCR series have a relatively short radius of screen curvature. This necessitates the use of a flexible transparency which can be spread across the glass surface, otherwise edge defocusing and parallax effects will result.

Little need be said concerning slow-scan circuits themselves, these being more or less the individual's preference, but assuming that the slow-scanned image is to modulate a narrow band transmitter (the narrow bandwidth [4-10 kilocycles] of slow scan systems being their main advantage), then there are sure to be some difficulties with integration and differentiation networks and the circuits with which they are used. Accordingly, the single-tube synch. separator, be it a double triode or not, may have to be replaced with two or three valve circuitry, where the synchronising pulses are separated, shaped and amplified, passed on to a control tube, and finally the oscillator themselves. In view of the overall narrow bandwidth of this system, this should not be a great disadvantage. The synchronising pulses, whether used for closed circuit or transmitting work, can be obtained from asymmetrical multi-vibrators in the usual way. ●

EARLY COPY DATE

All correspondents are reminded that with the approaching Xmas Holidays the copy date for the December and January issues will be strictly adhered to. Copy for the December issue must be at P.O. Box 36 by 8th November, any copy received after that date will be carried over to the January issue.

Copy for the January issue must be at P.O. Box 36 by 1st December, as the printers' Xmas shut-down requires an early issue of January "A.R."

Your co-operation in observing these dates will greatly assist all concerned. Regrettably we cannot accept copy received after the specified date, so please post in adequate time, remembering the additional heavy load the Post Office has at this period of the year.

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2064	125	340 315	135 TAP 125	6.3 C.T.-2.25 6.3-2.25	16	4	15	3½	2¼x2¼	3½x3¼	VIN 34
2065	150	290 265	115 TAP 105	6.3 C.T.-6	6	10	5	3½	2¼x2¼	3½x3¼	VIN 34
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CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

LEGAL POWER LIMIT

The Editor suggests that those Amateurs currently using above the legal power limit cease this practice, as if they do not do so, then the next letter will no doubt not be a request but a demand from other quarters.

Listening around the bands it becomes evident that a few Amateurs are using a well known piece of commercial gear "barefoot," then feeding this into a type of final. As the commercial gear already has the permitted power input, then the final must be exceeding the authorised limit, and no one will be fooled by the statement that these few are "running 150 watts average input." So chaps, you are requested to note this suggestion and act upon it in the spirit in which it is offered.

—K. M. Cocking.

A.T.V. NEWS

Editor "A.R.," Dear Sir,
I have endeavoured to write the A.T.V. Notes for some time now. Due to illness in the house I will be unable to continue with the notes. I do hope someone will be willing to take on the job.

I would like to take this opportunity to thank all those who have sent in news to me of their a.t.v. activity, and hope they will continue to do the same to whoever takes on the notes. To those who have not co-operated as was expected I do appeal to them to assist in the future.

While not wanting to enter the controversy on a.t.v., I feel I must say that the letter in October "A.R." was not with my knowledge. The following books may be found helpful to anyone starting on a.t.v. gear, such as a flying spot scanning.

"An Introduction to Amateur Television Transmission," by Michael Barlow; 7/6.
"Electronic Notes for the Constructor," by E. N. Bradley; 7/6.
and for the more advanced, when building a v.v. camera.

"Closed Circuit and Industrial Television," by Edward M. Noll; 4/7s.

I would be pleased to hear from anyone interested in a.t.v. I am on 7.1 Mc. most days at 1230 and 1800 hours.

—W. A. Brownhill, VK3BU/T.

DIATHERMY INTERFERENCE

Editor "A.R.," Dear Sir,
Noticed a letter in October's "A.R." re diathermy interference. G. R. VK2JH.

I heartily endorse this gentleman's remarks, and would like to point out in particular one such device which is causing severe interference on the 1.5 Mc. band.

Reports have come from South Africa, New Zealand and various parts of VK6 and I have personally received reports through the local Advisory Committee about it, but apparently officialdom prefers to ignore same.

It appears to originate in the Melbourne area. I wonder if it is down between 28.00 and 28.75 Mc., and has been in evidence in nearly every band opening to VK3 over at least the last two years.

Apparently, we have to like it or lump it.

—Bob Elms, VK6BE.

S.W.R. MEASUREMENTS

Editor "A.R.," Dear Sir,
I wish to take exception to the article in October "A.R." "S.W.R. Measurements with the TARR." Mr. Triband Allen writes:

The whole of this article, i.e. the curves and interpretation of them is based on the quoted formula:

S.W.R. equals

Forward power plus reflected power

Forward power minus reflected power

This formula is not correct. The correct formula to use is

S.W.R. equals $1 + \frac{P_r}{P_f}$

S.W.R. equals $1 + \frac{P_r}{P_f}$

where I equals forward current and J equals reflected current.

The quoted examples of S.W.R. equals (100 plus 1) divided by 100 minus 1 to give an S.W.R. of 1.8 to 1, should read: S.W.R. equals (square root of 100 plus square root of 28) divided by square root of 100 minus square root of 28 equals 1.53 divided by 4.7 to give an S.W.R. of 3.25 to 1.

The other example quoting S.W.R. equals 1.2 to 1 should in fact be S.W.R. equals 1.92 to 1.

Another point is the location of the measuring device, the assumption being that the measuring device was inserted into the feeder at the transmitter end.

In this case a correction factor should be used to correct for the attenuation of the feeder (which at these higher S.W.R.'s, will not necessarily be negligible) both for forward current and again for reflected current.

—C. B. Edmonds, VK3AEE.

MORSE CODE

Editor "A.R.," Dear Sir,

If Mr. Roth Jones (October "A.R.") honestly believes that c.w. is languishing and will soon die out, I'm afraid he is deluding himself. From the tenor of his remarks I would suggest he has had one eye removed and replaced by a phase-shift network.

A time over 14 Mc. any night of the week will prove to him that c.w. stations outnumber s.a.b. by roughly 4 to 1. Apparently a few Amateurs still enjoy using c.w., which should be sufficient reason for its retention.

As for his suggestion re the re-allocation of frequencies, what is wrong with his s.a.b. gear? He can add the s.a.b. to the one half the bandwidth is required so that their 75 kc. should be more than adequate—being the equivalent of 150 kc. of a.m. or c.w. allocation.

Incidentally, I am accused of being one-eyed, I may add that I operate a.m. and c.w. on all bands to 144 Mc. I have nearly 3000 c.w. stations, and I do not intend to buy the latter ready-made.

—Bob Elms, VK6BE.

(Owing to lack of space in this issue, other letters on the same subject have been held over until the next issue.—Editor.)

THE ROSS HULL MEMORIAL V.H.F. CONTEST, 1960-61

(Continued from Page 7)

RECEIVING SECTION

1. Short wave listeners in Australia and Overseas may enter for the Contest, but no transmitting station may enter.

2. Contest times and logging of stations on each band are as for the transmitting sections.

3. To count for points, logs will take the same form as for the transmitting sections but will omit the serial number received. Logs must show the call sign of the station heard (instead of worked), the serial number sent by it, and the call sign of the station being worked.

Scoring will be on the same basis as for transmitting stations. It is not sufficient to log stations calling CQ.

4. A station heard may be logged only once per calendar day on c.w. and once per day on each phone band for scoring purposes, but additional reports will be of value to the F.C.C.

5. Awards: Certificates will be awarded to the highest scorer in each VK and Overseas call area.

NEW RATES FOR HAMADS

The Publications Committee advise that as from the December issue of "A.R." Hamads will be charged at the "minimum rate of five shillings an advertisement of thirty words, which is a reduction on the previous rate.

All ads. must be accompanied by payment and additional words will be charged at twopence a word. No phone ads. will be accepted, nor will receipts be issued as from 1st December, 1960. This change has been made to simplify office routine, and reduce the cost of advertising, as the survey indicated the majority of ads. contain approximately thirty words.

VHF

(Continued from Page 14)

of modifying it for 6 mX. The power input will be low (approx. 5w), but he should be heard quite well. Mobile activity generally (QRP) has been very good. The best VHF 2ZDR, 8ZAW, 5MK, 5ZAP, 4ZAX/5 and 5BQ heard regularly. Brian STN is on almost every night sending m.c.w. for the benefit of Al 5ZGR and Jack 5ZP who are intending to meet shortly for the full ticket—good luck boys. There are several other undetected listeners also, so Brian's efforts are appreciated. He used 1 mX. Two metres hasn't altered much except for one new 2 mX station, Brian STN who has had several cross-band duplex contacts. 5ZGR is perfect. He has a new 2 mX converter which features two c.c. mixer stages and an i.f. tuned by an MN29C Compass rx, making triple conversion in all. When completed it should be even ultimate in 2 mX rx's. Brian STN is the latest to have 1 mX c.c. gear and has worked several stations including Vic. 57L on his portable trips into the country. Ken SZCH is another regular 1 mX contact in Elizabeth.—VK5BQ (ex-5ZBZ).

WESTERN AUSTRALIA

The last fox hunt was provided by 6BE and Les Cloud, the tx being hidden in a mountainous portion of Lesmudie. Roy 6ZBZ was the first to hear him, and then the other boys. Supper followed at the home of Les and Rae Cloud in Kalamunda. DX lived up on 6 mX during the month of Sept. JA being the most on 80, 15th (TE) and 10th. Since then there has been four fair openings. The 21st, I worked eight JA stations in the 80 minutes I was home. Band was still open to HUKA and Russian tv. (two stations this time) when I arrived home. At 1915 I worked three JAs on evening TE section. The second TE opening in fortnight. The 22nd, Russian tv. was coming in weakly at 1500 W.A.S.T. and it appears likely that JAs could bob up at any time. HUKA and Russian tv. have continued at colossal strength on several occasions. Unfortunately interference from ABW Channel 2 renders it impossible to resolve pictures from Russia in Kalamunda.

Ian 6CL is back on 6 using a rhombic over the 120-mile path to Perth. He has also been working the JAs with the 6CL. The 6CL is Perth operators. Jack 6BU is back on the breeze with a brand new v.f.o., 815 tx, which appears to be working. Several of the boys have gone transistor, both on 6 and 6ZBZ. Noel 6ZBG using transistor converters with very good results. Brian 6ZBJ has found new equipment in Geraldton. He is now on Perth. He hopes to have his 150w. back on 6 within a month. JA working should be particularly good from that location.

Another new slip 6BX has appeared on 6. How you have a good time on the band OM. Russ 6ZBX was most unfortunate in missing his 15w. for the full ticket. Thought that he missed the receiving, so didn't attempt the sending. Got a slip from the authorities. "Receiving, pass; sending, not attempted. It will be necessary for you to call Bud Ross, start again. Bill Wedermeyer (my protégé) goes for his ticket in October. If he does, I will be my country already. There is an imposing home grown listening set up. His latest is a home built turret tuned converter (as per "A.R.") will run six bands from 5.5 to 90 Mc.

T.V.—Francis 6WD has joined the square eyed company and is trying his hand at t.v. watching over a 150-mile path. I believe that he is having some trouble with "ringing" halo in his picture but whether this is the set or the tx is open to conjecture. 6VK informs me that something may be done in the line of a rx on 288 Mc. in the near future though nothing definite can be stated at present. Incidentally, I am now using a 100w. using a 100w. EVF is now under the roof of 6HK and some use of the call as a beacon will be made during DX periods. Frequency is 50.001 Mc.—VK6BE.

"A.R.'s" ANNUAL ISSUE

October "A.R." is available from the Victorian Division for 2/- a copy and additional copies can be supplied as long as stocks are available. All requests to Administrative Secretary, P.O. Box 36, East Melbourne, C.2, Vic., enclosing money with your order. Act now and obtain your spare copy. The previous special issue is now a collector's item, so don't miss out this time on your spare copy.



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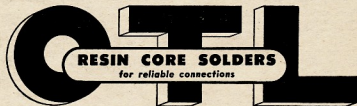
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PREDICTION CHART, NOV. '60

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Fellow s.w.l.'s., here is your scribe once more, with the news and activities of the VK s.w.l. I hope the bands have been kind to you in the way of DX. If so, why not write me a letter so that all s.w.l.'s. know what you have heard. While you are about it, tell me something about yourselves and your equipment.

Did you like last month's page and a half? I would say it is the first time in history that the a.w.l. page has gone over one page. It shows that I'm getting what I ask for and that's news of and about you; so keep writing to me.

I haven't had any queries re the S.w.I. Convention next year. Who is going to be in it? Have received one photo for inclusion in next month's issue. We of the s.w.i.s. hope that there will be a lot of logs entered in the VK/ZL Contest. This item of news will be of interest to you all.

Awards.—It was decided at the last VKI general meeting to establish two award certificates to all world-wide s.w.f.s. Firstly, H.A.V.K. (heard all VK). This award will be issued to the holders of 12 cards; they should comprise of VK1 through to VK8; two from any VK9 area, and two from any VK0. Secondly, the VK S.w.I. DXCC, which will be of 100 cards from any 100 different countries. More details of these awards in next issue.

THE STATES' NEWS

Albury Radio Club.—Down in this corner, there is not a lot of listener activity, but it is a station that could be counted on by members, Milton Richardson, an entrant in the R.D. Contest. His score of approx. 350 points is very good going for a newcomer to the contest. He has been working hard on his effort. We must, at this stage, make note of the assistance given to associate members by the club. The club has been very helpful. It has made his shack available to the club for their Friday night meeting and his mode of operation is very good. He is one of the few in the number of Amateurs in this town. Herb 2QD assists in a similar manner and it is gratifying to see that there are two such well known radio men in the area. We have had a few new arrivals, who, despite a few hiccups upon their patience, still continue to hold the fort. C.W. instruction is in the very able hands of Art.

[illegible]

VK3s—Frosty Fraser is to be congratulated as with his recently obtained H.R.O. and 63 ft. end-fed antenna, he won the Contest of the Month (number of countries heard on s.s.b.). He heard 54, which was a mighty fine effort. Yours truly ran a very close second with 52. Mac, our President, 47. There were quite a few logs entered, which was very pleasing to note. Bert 3ZGD is donating a trophy to Frosty at our next meeting.

About three weeks ago a dozen of us went to the Geelong Amateur Radio Club Exhibition. Quite a few of us came away with eye-bags, but the very nice way of rx'ing was enjoyed by all. At the last general meeting 12 s.w.s. were present and we discussed and passed the awards. At the next meeting we discussed the organising committee will report out our next twelve months of activity. On 6th Oct. we paid a visit to the transmitting site of GTV9 at Mt. Dandenong and we spent two pleasant and interesting hours and saw how they now have a more powerful transmitter's signal. Our thanks go to 3FF one of the technicians who explained everything to us. Thanks Ian for arranging such a nice visit.

Tom Hayward is going to put up a beam, which I think will look like an Indian's bow. It's to be constructed of bamboo. I have put up two W0 Windham type antennae; actually, one was up before, so one is north by south, one east and west. Have a switch arrangement to go from one to another.

VKS.—The last meeting was held at the Wesley Hall, Mt. Gambler, but owing to school holidays some of the s.w.'s were away from the district. There were six s.w.'s present and after the meeting they visited SKU, E. Stanke. Whilst they were there, he made contact with W8AAG on c.w., but didn't have luck with phone calls.

Fred L5030 received a letter from a W.I.A. member in Adelaide, wanting to join the ranks of the s.w.l's. And at the present the member is having a 3-valve funnel wave, but hopes to have a 4-valve. Besides, he should have heard 01 rx countries, but still only two confirmed. His rx operates on 10 mx—not good, but 15 is a snifter. He puts in a P.S. and I quote: "While at SMS' shack this Sat. afternoon, Dale L5025, Trevor L5030 and myself were talking to a GNSNT member with a 4-valve GNSNT in England. He is 19 years old and has only been on 13 months; puts out a terrific signal into Australia." He sure does Colin.

VK7.—The new Secretary of the VK7 S.W.L. Group has written to me and his name is Michael Jenner, from New Norfolk. Thanks for the letter Michael, it is pleasing to know that you are all still alive down there! It's a long time of correspondence, don't you think. I would like another pair of hands and another head, hi, then I would keep up with it all. I've been that busy this last two months that I have only sent out two s.w.l. reports. Anyhow, Michael makes mention of the following: "A lot of correspondence, don't you think." Well, I love correspondence, I have an interest on the go for the boys over there at the moment.

Every second Sunday morning he is going to put a bit of news over the W.I.A. broadcast line. He is also going to have a little more line with the licensed fellows. The band has a few lectures and a visit to the P.M.G. Monitoring Station on the hook. It looks as though the next few meetings will be very interesting. The attendance is not too good. The reason is lack of attendance. The same half dozen turning up each meeting night. What's wrong with your s.w.i.f.s? Thought you liked visits from the W.I.A. fellows. What about the events? By the way, Mike is using an AR7 rx with a KS9er aerial matching and r.f. amplifier unit plus a 6 mx converter. The man is a ham. He's a gold digger on the mx. made from t.v. ribbons. Thanks Michael for your first letter, hope there is more to come.

OVERSEAS NOTES

It is with much pleasure that we can announce that one of our regular contributors, Colin Hutcheson, 15631, was the outright winner of the N.Z.A.R.T. Memorial Contest this year. It is most pleasing to see one of our younger members achieve such success in this nature. The results are more impressive for the reason that Eric Trebilcock was second and Don Grantley third. Congratulations Colin, see you in the VK-ZL.

Bill Edwards, KEMXL, of Indiana, and his mother, KBRUS, have both passed their general exams and are now on the air on both bands, including 6 mx. Both will QSL OK and any reports can be sent via Don 13088 at Box 145, Albany.

DX activity these days has gradually moved to the s.s.b. segment of 20 mx and some of the prefixes heard there are really rare regardless of which mode you prefer. The S.s.b. Contest which is being conducted currently

by the VK Group has brought to light some very interesting calls, so we suggest you newcomers listen some time in that part of the spectrum. It is necessary to have a b.f.o. on your rx to receive them, however don't hesitate to fit one, for your efforts shall be well rewarded.

CORRESPONDENCE

Letters received from L3042 (BERS-1956), L3088, L3039, L3077, L3074 and two letters from L3075, L3076, L3077, L3078, L3079, L3080 will be a definite start for the S.W.I. Convention at Shepparton, circumstances permitting. Well, how about that s.w.i.'s our mastermind, the one who has been the driving force to come one, come all. He says the QSL makes a man's job is going f.b., keeps him busy, but he says he has been in the S.W.I. for a long day and tells me he has seen very few business cards that he hasn't got and he would like to hear them sometime. He says he has been to the S.W.I. for a long time and has travelled practically all over Victoria during the school holidays with his XYL and he says he has been to the S.W.I. for a long time. I wonder what that was about? I'll bet it was DX. Thanks for the letter Eric. Now from L3081, L3082, L3083, L3084, L3085, L3086, L3087, L3088, L3089, L3090, L3091, L3092, L3093, L3094, L3095, L3096, L3097, L3098, L3099, L3100, L3101, L3102, L3103, L3104, L3105, L3106, L3107, L3108, L3109, L3110, L3111, L3112, L3113, L3114, L3115, L3116, L3117, L3118, L3119, L3120, L3121, L3122, L3123, L3124, L3125, L3126, L3127, L3128, L3129, L3130, L3131, L3132, L3133, L3134, L3135, L3136, L3137, L3138, L3139, L3140, L3141, L3142, L3143, L3144, L3145, L3146, L3147, L3148, L3149, L3150, L3151, L3152, L3153, L3154, L3155, L3156, L3157, L3158, L3159, L3160, L3161, L3162, L3163, L3164, L3165, L3166, L3167, L3168, L3169, L3170, L3171, L3172, L3173, L3174, L3175, L3176, L3177, L3178, L3179, L3180, L3181, L3182, L3183, L3184, L3185, L3186, L3187, L3188, L3189, L3190, L3191, L3192, L3193, L3194, L3195, L3196, L3197, L3198, L3199, L3200, L3201, L3202, L3203, L3204, L3205, L3206, L3207, L3208, L3209, L3210, L3211, L3212, L3213, L3214, L3215, L3216, L3217, L3218, L3219, L3220, L3221, L3222, L3223, L3224, L3225, L3226, L3227, L3228, L3229, L3230, L3231, L3232, L3233, L3234, L3235, L3236, L3237, L3238, L3239, L3240, L3241, L3242, L3243, L3244, L3245, L3246, L3247, L3248, L3249, L3250, L3251, L3252, L3253, L3254, L3255, L3256, L3257, L3258, L3259, L3260, L3261, L3262, L3263, L3264, L3265, L3266, L3267, L3268, L3269, L3270, L3271, L3272, L3273, L3274, L3275, L3276, L3277, L3278, L3279, L3280, L3281, L3282, L3283, L3284, L3285, L3286, L3287, L3288, L3289, L3290, L3291, L3292, L3293, L3294, L3295, L3296, L3297, L3298, L3299, L3300, L3301, L3302, L3303, L3304, L3305, L3306, L3307, L3308, L3309, L3310, L3311, L3312, L3313, L3314, L3315, L3316, L3317, L3318, L3319, L3320, L3321, L3322, L3323, L3324, L3325, L3326, L3327, L3328, L3329, L3330, L3331, L3332, L3333, L3334, L3335, L3336, L3337, L3338, L3339, L3340, L3341, L3342, L3343, L3344, L3345, L3346, L3347, L3348, L3349, L3350, L3351, L3352, L3353, L3354, L3355, L3356, L3357, L3358, L3359, L3360, L3361, L3362, L3363, L3364, L3365, L3366, L3367, L3368, L3369, L3370, L3371, L3372, L3373, L3374, L3375, L3376, L3377, L3378, L3379, L3380, L3381, L3382, L3383, L3384, L3385, L3386, L3387, L3388, L3389, L3390, L3391, L3392, L3393, L3394, L3395, L3396, L3397, L3398, L3399, L3400, L3401, L3402, L3403, L3404, L3405, L3406, L3407, L3408, L3409, L3410, L3411, L3412, L3413, L3414, L3415, L3416, L3417, L3418, L3419, L3420, L3421, L3422, L3423, L3424, L3425, L3426, L3427, L3428, L3429, L3430, L3431, L3432, L3433, L3434, L3435, L3436, L3437, L3438, L3439, L3440, L3441, L3442, L3443, L3444, L3445, L3446, L3447, L3448, L3449, L3450, L3451, L3452, L3453, L3454, L3455, L3456, L3457, L3458, L3459, L3460, L3461, L3462, L3463, L3464, L3465, L3466, L3467, L3468, L3469, L3470, L3471, L3472, L3473, L3474, L3475, L3476, L3477, L3478, L3479, L3480, L3481, L3482, L3483, L3484, L3485, L3486, L3487, L3488, L3489, L3490, L3491, L3492, L3493, L3494, L3495, L3496, L3497, L3498, L3499, L3500, L3501, L3502, L3503, L3504, L3505, L3506, L3507, L3508, L3509, L3510, L3511, L3512, L3513, L3514, L3515, L3516, L3517, L3518, L3519, L3520, L3521, L3522, L3523, L3524, L3525, L3526, L3527, L3528, L3529, L3530, L3531, L3532, L3533, L3534, L3535, L3536, L3537, L3538, L3539, L3540, L3541, L3542, L3543, L3544, L3545, L3546, L3547, L3548, L3549, L3550, L3551, L3552, L3553, L3554, L3555, L3556, L3557, L3558, L3559, L3560, L3561, L3562, L3563, L3564, L3565, L3566, L3567, L3568, L3569, L3570, L3571, L3572, L3573, L3574, L3575, L3576, L3577, L3578, L3579, L3580, L3581, L3582, L3583, L3584, L3585, L3586, L3587, L3588, L3589, L3590, L3591, L3592, L3593, L3594, L3595, L3596, L3597, L3598, L3599, L3600, L3601, L3602, L3603, L3604, L3605, L3606, L3607, L3608, L3609, L3610, L3611, L3612, L3613, L3614, L3615, L3616, L3617, L3618, L3619, L3620, L3621, L3622, L3623, L3624, L3625, L3626, L3627, L3628, L3629, L3630, L3631, L3632, L3633, L3634, L3635, L3636, L3637, L3638, L3639, L3640, L3641, L3642, L3643, L3644, L3645, L3646, L3647, L3648, L3649, L3650, L3651, L3652, L3653, L3654, L3655, L3656, L3657, L3658, L3659, L3660, L3661, L3662, L3663, L3664, L3665, L3666, L3667, L3668, L3669, L3670, L3671, L3672, L3673, L3674, L3675, L3676, L3677, L3678, L3679, L3680, L3681, L3682, L3683, L3684, L3685, L3686, L3687, L3688, L3689, L3690, L3691, L3692, L3693, L3694, L3695, L3696, L3697, L3698, L3699, L3700, L3701, L3702, L3703, L3704, L3705, L3706, L3707, L3708, L3709, L3710, L3711, L3712, L3713, L3714, L3715, L3716, L3717, L3718, L3719, L3720

"Re last article in "A.R.," some sarcastic comment has been tossed this way re my comments on ground planes. Now we all know these things are not a good rx antenna, they are too noisy. OK? Well this miniature effort is really good in the counter, I have proved it. It is not good with the noise. I notice in the article refers to Mt. Raven at Holbrook which was entirely free of any form of man-made interference. In fact I am going to use it for 10 here, in due course."

Kevin Wh, L3089: "I feel that I ought to tell you of my experience in Army camp as a cadet signals operator. One of some regulars had a radio set, a station and a console. I had at my disposal the transceiver. I don't know if you have heard of a WSA10, containing a 1000 cycle oscillator, a 1000 cycle unit can be used on c.w. and phone. The rx transmits from 1.5 to 10 Mc. through two bands. Of course the tx depends on its aerial for range. It has a 400 ohm antenna coil and a 100 ohm simple 8 ft. whip for rx'ing. However, when used in conjunction with the provided dipole antenna, it can be used for both. In actual practice we worked in a directed net on 2484 Kc. The other net used 8325 Kc. Besides the WSA10's, control used 92 sets for the purpose of controlling the stations (field ambulance, the Major and Hdqrs.

A bit of news from L3042. Scores up to date heard 270 countries, 40 zones all time. For 1960 heard 156 countries, 33 zones. QSLs from 25 countries, 40 zones all time. 1960, 107 confirmed, 34 zones. Mailed 1,187 reports so far this year. Heard 134 countries, 33 zones so far this year. He has made 233,179 log entries all time and in 1960 has logged 12,627. He quotes the following: "QSLs Aug. 1960, rarest six were FG-TXF, ZLJAF, Campbell is W3ZJA/EB, OX3DL, LX1DP, ZCSAE. In passing, I heard W2ADN, EP the first day he went on the air, and the last, a w.t. to log him. I heard W2ADN reports since the first day. UAOU sent me write-up on me in Russian, CXA Russian magazine."

BOX HEARD

On 3.5 Mc. L3039 heard SP9DJ; that's the only one logged on c.w. And L3042 confirms that 3.5 Mc. and 7 Mc. practically nil.

14 Mc.: L3039, c.w. in the a.m. U4AKHC, G3H5W, U6AUI, I1MIL, G3NMX. L3043: M1, G3H5W, U6AUI, I1MIL, G3NMX, G3V5AN, VE9JZ, JZ0P, VS6EM, D1UJA, U6MKA, VE9JZ, VS6BP, FK8AL, SV0WQ Crete, ZK1BS, BV3HT, VU-2RN, HL8KT. From L3074: Gs, ILs, DLs, CR-9AN, U8SLE, DLQ, VQ4GT, VP9DC, CN8CS, HC1FG. S.a.b.: K8CQY/K8S, Z8SCZ, KC0AAG, LXEMP, SM5L, FZ1AX, U8BFJ, U6AUI, G3H5W, I1MIL, G3NMX, SV1B, SV1C, SV1D, SV1E, SV1F, SV1G, SV1H, SV1I, SV1J, SV1K, SV1L, SV1M, SV1N, SV1O, SV1P, SV1Q, SV1R, SV1S, SV1T, SV1U, SV1V, SV1W, SV1X, SV1Y, SV1Z, SV1AA, SV1AB, SV1AC, SV1AD, SV1AE, SV1AF, SV1AG, SV1AH, SV1AI, SV1AJ, SV1AK, SV1AL, SV1AM, SV1AN, SV1AO, SV1AP, SV1AQ, SV1AR, SV1AS, SV1AT, SV1AU, SV1AV, SV1AW, SV1AX, SV1AY, SV1AZ, SV1BA, SV1BB, SV1BC, SV1BD, SV1BE, SV1BF, SV1BG, SV1BH, SV1BI, SV1BJ, SV1BK, SV1BL, SV1BM, SV1BN, SV1BO, SV1BP, SV1BQ, SV1BR, SV1BS, SV1BT, SV1BU, SV1BV, SV1BW, SV1BX, SV1BY, SV1BZ, SV1CA, SV1CB, SV1CC, SV1CD, SV1CE, SV1CF, SV1CG, SV1CH, SV1CI, SV1CJ, SV1CK, SV1CL, SV1CM, SV1CN, SV1CO, SV1CP, SV1CQ, SV1CR, SV1CS, SV1CT, SV1CU, SV1CV, SV1CW, SV1CX, SV1CY, SV1CZ, SV1DA, SV1DB, SV1DC, SV1DD, SV1DE, SV1DF, SV1DG, SV1DH, SV1DI, SV1DJ, SV1DK, SV1DL, SV1DM, SV1DN, SV1DO, SV1DP, SV1DQ, SV1DR, SV1DS, SV1DT, SV1DU, SV1DV, SV1DW, SV1DX, SV1DY, SV1DZ, SV1EA, SV1EB, SV1EC, SV1ED, SV1EE, SV1EF, SV1EG, SV1EH, SV1EI, SV1EJ, SV1EK, SV1EL, SV1EM, SV1EN, SV1EO, SV1EP, SV1EQ, SV1ER, SV1ES, SV1ET, SV1EU, SV1EV, SV1EW, SV1EX, SV1EY, SV1EZ, SV1FA, SV1FB, SV1FC, SV1FD, SV1FE, SV1FF, SV1FG, SV1FH, SV1FI, SV1FJ, SV1FK, SV1FL, SV1FM, SV1FN, SV1FO, SV1FP, SV1FQ, SV1FR, SV1FS, SV1FT, SV1FU, SV1FV, SV1FW, SV1FX, SV1FY, SV1FZ, SV1GA, SV1GB, SV1GC, SV1GD, SV1GE, SV1GF, SV1GG, SV1GH, SV1GI, SV1GJ, SV1GK, SV1GL, SV1GM, SV1GN, SV1GO, SV1GP, SV1GQ, SV1GR, SV1GS, SV1GT, SV1GU, SV1GV, SV1GW, SV1GX, SV1GY, SV1GZ, SV1HA, SV1HB, SV1HC, SV1HD, SV1HE, SV1HF, SV1HG, SV1HH, SV1HI, SV1HJ, SV1HK, SV1HL, SV1HM, SV1HN, SV1HO, SV1HP, SV1HQ, SV1HR, SV1HS, SV1HT, SV1HU, SV1HV, SV1HW, SV1HX, SV1HY, SV1HZ, SV1IA, SV1IB, SV1IC, SV1ID, SV1IE, SV1IF, SV1IG, SV1IH, SV1II, SV1IJ, SV1IK, SV1IL, SV1IM, SV1IN, SV1IO, SV1IP, SV1IQ, SV1IR, SV1IS, SV1IT, SV1IU, SV1IV, SV1IW, SV1IX, SV1IY, SV1IZ, SV1JA, SV1JB, SV1JC, SV1JD, SV1JE, SV1JF, SV1JG, SV1JH, SV1JI, SV1JJ, SV1JK, SV1JL, SV1JM, SV1JN, SV1JO, SV1JP, SV1JQ, SV1JR, SV1JS, SV1JT, SV1JU, SV1JV, SV1JW, SV1JX, SV1JY, SV1JZ, SV1KA, SV1KB, SV1KC, SV1KD, SV1KE, SV1KF, SV1KG, SV1KH, SV1KI, SV1KJ, SV1KK, SV1KL, SV1KM, SV1KN, SV1KO, SV1KP, SV1KQ, SV1KR, SV1KS, SV1KT, SV1KU, SV1KV, SV1KW, SV1KX, SV1KY, SV1KZ, SV1LA, SV1LB, SV1LC, SV1LD, SV1LE, SV1LF, SV1LG, SV1LH, SV1LI, SV1LJ, SV1LK, SV1LL, SV1LM, SV1LN, SV1LO, SV1LP, SV1LQ, SV1LR, SV1LS, SV1LT, SV1LU, SV1LV, SV1LW, SV1LX, SV1LY, SV1LZ, SV1MA, SV1MB, SV1MC, SV1MD, SV1ME, SV1MF, SV1MG, SV1MH, SV1MI, SV1MJ, SV1MK, SV1ML, SV1MM, SV1MN, SV1MO, SV1MP, SV1MQ, SV1MR, SV1MS, SV1MT, SV1MU, SV1MV, SV1MW, SV1MX, SV1MY, SV1MZ, SV1NA, SV1NB, SV1NC, SV1ND, SV1NE, SV1NF, SV1NG, SV1NH, SV1NI, SV1NJ, SV1NK, SV1NL, SV1NM, SV1NN, SV1NO, SV1NP, SV1NQ, SV1NR, SV1NS, SV1NT, SV1NU, SV1NV, SV1NW, SV1NX, SV1NY, SV1NZ, SV1OA, SV1OB, SV1OC, SV1OD, SV1OE, SV1OF, SV1OG, SV1OH, SV1OI, SV1OJ, SV1OK, SV1OL, SV1OM, SV1ON, SV1OO, SV1OP, SV1OQ, SV1OR, SV1OS, SV1OT, SV1OU, SV1OV, SV1OW, SV1OX, SV1OY, SV1OZ, SV1PA, SV1PB, SV1PC, SV1PD, SV1PE, SV1PF, SV1PG, SV1PH, SV1PI, SV1PJ, SV1PK, SV1PL, SV1PM, SV1PN, SV1PO, SV1PP, SV1PQ, SV1PR, SV1PS, SV1PT, SV1PU, SV1PV, SV1PW, SV1PX, SV1PY, SV1PZ, SV1QA, SV1QB, SV1QC, SV1QD, SV1QE, SV1QF, SV1QG, SV1QH, SV1QI, SV1QJ, SV1QK, SV1QL, SV1QM, SV1QN, SV1QO, SV1QP, SV1QQ, SV1QR, SV1QS, SV1QT, SV1QU, SV1QV, SV1QW, SV1QX, SV1QY, SV1QZ, SV1RA, SV1RB, SV1RC, SV1RD, SV1RE, SV1RF, SV1RG, SV1RH, SV1RI, SV1RJ, SV1RK, SV1RL, SV1RM, SV1RN, SV1RO, SV1RP, SV1RQ, SV1RR, SV1RS, SV1RT, SV1RU, SV1RV, SV1RW, SV1RX, SV1RY, SV1RZ, SV1SA, SV1SB, SV1SC, SV1SD, SV1SE, SV1SF, SV1SG, SV1SH, SV1SI, SV1SJ, SV1SK, SV1SL, SV1SM, SV1SN, SV1SO, SV1SP, SV1SQ, SV1SR, SV1SS, SV1ST, SV1SU, SV1SV, SV1SW, SV1SX, SV1SY, SV1SZ, SV1TA, SV1TB, SV1TC, SV1TD, SV1TE, SV1TF, SV1TG, SV1TH, SV1TI, SV1TJ, SV1TK, SV1TL, SV1TM, SV1TN, SV1TO, SV1TP, SV1TQ, SV1TR, SV1TS, SV1TT, SV1TU, SV1TV, SV1TW, SV1TX, SV1TY, SV1TZ, SV1UA, SV1UB, SV1UC, SV1UD, SV1UE, SV1UF, SV1UG, SV1UH, SV1UI, SV1UJ, SV1UK, SV1UL, SV1UM, SV1UN, SV1UO, SV1UP, SV1UQ, SV1UR, SV1US, SV1UT, SV1UU, SV1UV, SV1UW, SV1UX, SV1UY, SV1UZ, SV1VA, SV1VB, SV1VC, SV1VD, SV1VE, SV1VF, SV1VG, SV1VH, SV1VI, SV1VJ, SV1VK, SV1VL, SV1VM, SV1VN, SV1VO, SV1VP, SV1VQ, SV1VR, SV1VS, SV1VT, SV1VU, SV1VV, SV1VW, SV1VX, SV1VY, SV1VZ, SV1WA, SV1WB, SV1WC, SV1WD, SV1WE, SV1WF, SV1WG, SV1WH, SV1WI, SV1WJ, SV1WK, SV1WL, SV1WM, SV1WN, SV1WO, SV1WP, SV1WQ, SV1WR, SV1WS, SV1WT, SV1WU, SV1WV, SV1WW, SV1WX, SV1WY, SV1WZ, SV1XA, SV1XB, SV1XC, SV1XD, SV1XE, SV1XF, SV1XG, SV1XH, SV1XI, SV1XJ, SV1XK, SV1XL, SV1XM, SV1XN, SV1XO, SV1XP, SV1XQ, SV1XR, SV1XS, SV1XT, SV1XU, SV1XV, SV1XW, SV1XX, SV1XY, SV1XZ, SV1YA, SV1YB, SV1YC, SV1YD, SV1YE, SV1YF, SV1YG, SV1YH, SV1YI, SV1YJ, SV1YK, SV1YL, SV1YM, SV1YN, SV1YO, SV1YP, SV1YQ, SV1YR, SV1YS, SV1YT, SV1YU, SV1YV, SV1YW, SV1YX, SV1YY, SV1YZ, SV1ZA, SV1ZB, SV1ZC, SV1ZD, SV1ZE, SV1ZF, SV1ZG, SV1ZH, SV1ZI, SV1ZJ, SV1ZK, SV1ZL, SV1ZM, SV1ZN, SV1ZO, SV1ZP, SV1ZQ, SV1ZR, SV1ZS, SV1ZT, SV1ZU, SV1ZV, SV1ZW, SV1ZX, SV1ZY, SV1ZZ, SV1AA, SV1AB, SV1AC, SV1AD, SV1AE, SV1AF, SV1AG, SV1AH, SV1AI, SV1AJ, SV1AK, SV1AL, SV1AM, SV1AN, SV1AO, SV1AP, SV1AQ, SV1AR, SV1AS, SV1AT, SV1AU, SV1AV, SV1AW, SV1AX, SV1AY, SV1AZ, SV1BA, SV1BB, SV1BC, SV1BD, SV1BE, SV1BF, SV1BG, SV1BH, SV1BI, SV1BJ, SV1BK, SV1BL, SV1BM, SV1BN, SV1BO, SV1BP, SV1BQ, SV1BR, SV1BS, SV1BT, SV1BU, SV1BV, SV1BW, SV1BX, SV1BY, SV1BZ, SV1CA, SV1CB, SV1CC, SV1CD, SV1CE, SV1CF, SV1CG, SV1CH, SV1CI, SV1CJ, SV1CK, SV1CL, SV1CM, SV1CN, SV1CO, SV1CP, SV1CQ, SV1CR, SV1CS, SV1CT, SV1CU, SV1CV, SV1CW, SV1CX, SV1CY, SV1CZ, SV1DA, SV1DB, SV1DC, SV1DD, SV1DE, SV1DF, SV1DG, SV1DH, SV1DI, SV1DJ, SV1DK, SV1DL, SV1DM, SV1DN, SV1DO, SV1DP, SV1DQ, SV1DR, SV1DS, SV1DT, SV1DU, SV1DV, SV1DW, SV1DX, SV1DY, SV1DZ, SV1EA, SV1EB, SV1EC, SV1ED, SV1EE, SV1EF, SV1EG, SV1EH, SV1EI, SV1EJ, SV1EK, SV1EL, SV1EM, SV1EN, SV1EO, SV1EP, SV1EQ, SV1ER, SV1ES, SV1ET, SV1EU, SV1EV, SV1EW, SV1EX, SV1EY, SV1EZ, SV1FA, SV1FB, SV1FC, SV1FD, SV1FE, SV1FF, SV1FG, SV1FH, SV1FI, SV1FJ, SV1FK, SV1FL, SV1FM, SV1FN, SV1FO, SV1FP, SV1FQ, SV1FR, SV1FS, SV1FT, SV1FU, SV1FV, SV1FW, SV1FX, SV1FY, SV1FZ, SV1GA, SV1GB, SV1GC, SV1GD, SV1GE, SV1GF, SV1GG, SV1GH, SV1GI, SV1GJ, SV1GK, SV1GL, SV1GM, SV1GN, SV1GO, SV1GP, SV1GQ, SV1GR, SV1GS, SV1GT, SV1GU, SV1GV, SV1GW, SV1GX, SV1GY, SV1GZ, SV1HA, SV1HB, SV1HC, SV1HD, SV1HE, SV1HF, SV1HG, SV1HH, SV1HI, SV1HJ, SV1HK, SV1HL, SV1HM, SV1HN, SV1HO, SV1HP, SV1HQ, SV1HR, SV1HS, SV1HT, SV1HU, SV1HV, SV1HW, SV1HX, SV1HY, SV1HZ, SV1IA, SV1IB, SV1IC, SV1ID, SV1IE, SV1IF

21 Mc. 13038, evenings up to 2130. Novices
and We during the day. UAIBE, UA1C, FL
TAME, UGRAW, OHKX, GWKSCQ, UA0GFS
and ZSL, D1NAC. The presumable or
c 13071, 11 Gs, plenty of Russians.
new country for him, FR7ZD, YN1WH, HB
9VW, VSSGS, 8M2DQ, TGRUS, CK1XF, CR
9AM is just a few he has heard.

22 Mc. 13074 reports quite a lot of JA
and ZSL coupled with couple of ZLs.
23 Mc. Late Afternoon, my company this
month, I will delete the QSL Letter as
are only minor changes. Hoping to hear from
you all shortly. 73, the best of DX, Maurie

NOTES

FEDERAL

N.Z.A.R.T. CONVENTION

The 1961 Convention of the New Zealand Association of Amateur Transmitters (Incorporated) will be held in Hamilton (N.Z.) on Saturday, 3rd June, to Monday, 5th June, 1961, and any NZAATs travelling abroad in New Zealand during this period will be most welcome advisers. J. C. Sanders, ZLIAUV, Secretary of the Convention Committee.

Because there may be a shortage of accommodation in Hamilton during this week-end, Mr. Sanders advises any interested VKs to make an early booking. Details may be obtained from Mr. Sanders by writing to P.O. Box 636, Hamilton, N.Z.

T.V.I.

Some interesting comments in relation to t.v.i. by Amateur transmitting stations have been received from VK2HS, Mr. E. M. Fanker, and may assist other Amateurs in tracking down interference.

Mr. Fanker says: "During my investigations into the problem of t.v.i. it has become obvious that very little trouble occurs from direct pick-up or break-through at the intermediate frequency of the t.v. receiver and that a high degree of suppression of harmonics radiated from the transmitter is necessary wherever there is interference. In one of the television channels, e.g. the 3rd harmonic of the 21 Mc. band on Channel 2. The degree of trouble is of course directly related to the strength of the signal."

"One form of interference that I do not recall reading of occurs when the t.v. receiver incorporated a considerable amount of negative feedback from the speaker voice coil to the first audio stage. Direct pick-up on the speaker leads occurs and is fed into the audio amplifier where it is rectified and reproduced by the speaker. This can easily be recognised by the fact that it is not affected by any setting of the receiver volume control."

Another form of interference which is quite severe is caused by direct pick-up at the input to the video amplifier and should there be any long unshielded leads in this part of the circuit, there is interference from transmission in the 3.5 Mc. band may be expected. Use of the normal type of shielded hook-up wire in the video circuit is not possible as the additional capacity severely degrades the performance of the t.v. receiver."

T.v.i. is a problem which we shall all meet some time or another and is a challenge to the experience and ingenuity of the Amateur to find the causes and effect a cure. Information from Amateurs who wish to contribute will always be welcome for publication in this magazine.

A.B.C.B. REPORTS ON I.T.U.

The Australian Broadcasting Control Board in its twelfth annual report to the year ended 30th June 1960, made comment on some points arising from the Radio Administrative Conference of the International Telecommunications Union held in Geneva, 1959, which can have a direct bearing on the bands allocated to the Amateur Service. This is printed herewith for the interest of Amateurs.

"A Radio Administrative Conference of the International Telecommunications Union was held in Geneva between 17th August and 21st December, 1959, and the Board was represented by the Australian Delegation by Mr. V. Hatfield. One of the principal tasks dealt with by the Conference was the revision of the Radio Regulations and the International Regulations (Atlantic City, 1947), which include the Table of Frequency Allocations providing for the allocation on an international basis of bands of frequencies for the various radio services including broadcasting, which covers both sound broadcasting and television. The tremendous growth in radio service in the intervening years, together with the requirements of entirely new services, such as Space Research, Radioastronomy and Ionospheric and Geospheric Scatter Systems, presented extremely difficult problems in the allocation of spectrum space, particularly in those portions of the spectrum having long-distance propagation characteristics."

"As a result of the Conference, the following changes which affect broadcasting and television in Australia are contemplated:-

"Medium-frequency 535-535 Kc.-This band, which was previously allocated to the Mobile Service, is now shared by the Mobile and Broadcasting Services in Region 3, which includes Australia.

"High-frequency 7,100-7,150 Kc.-This band, which was previously shared between the Broadcasting and Amateur Services in both Region 1 and 3, will now be allocated exclusively to broadcasting in both regions.

"Very-high-frequency.-The bands allocated to broadcasting in Region 3 in the Atlantic City table were confirmed with the following variations:

(a) 87-100 Mc. is now allocated to the Broadcasting, Fixed and Mobile Services, instead of exclusively to Broadcasting as previously.

(b) 170-216 Mc. is now allocated to the Broadcasting, Fixed and Mobile Services, in lieu of 170-300 Mc. in the Atlantic City table. (In Australia portion of the band 202-209 Mc. is allocated to the Aeronautical Radiotelephony Service.)

"The frequency bands of the ten v.h.f. television channels reserved for television purposes in Australia are all included in the new Geneva Frequency Allocation Table and associated footnotes. However, the allocation of the band 136-137 Mc. for research purposes in Space and Earth Space projects, and a move towards eventual allocation of the band 132-136 Mc. to the Aeronautical Mobile (Route) service on a world-wide basis, may involve reconsideration of the use of Channel 4, 132-136 Mc. for television. Within television Channel 7, 181-188 Mc., the band 183.6 Mc. plus or minus 0.5 Mc. is allocated on a world-wide basis to Space and Earth Space services for research purposes, subject to no harmful interference being caused to other services."

"Ultra-high-frequency.-The band 500-820 Mc. has been allocated exclusively to the Broadcasting Service in Australia, except for the portion 585-610 Mc. which is shared by the Radiotelephony Service on a secondary basis. The Radioastronomy Service may use the portion 600-614 Mc. until such time as it is required by the other services to which it is allocated."

"Super-high-frequency.-The Conference allocated the spectrum beyond 10,500 Mc. the upper limit of the spectrum allocated in the Atlantic City (1947), up to a limit of 40,000 Mc. In this new spectrum space, broadcasting is allocated the band 11,700-12,700 Mc., shared with the Fixed and Mobile services."

"High-frequency Broadcasting Plans.-Nine draft high-frequency broadcasting plans, for different seasons and three periods of the 11-year sunspot cycle, were prepared by the International Frequency Registration Board (I.F.R.B.), for consideration by the Conference, with the object of substituting orderly planned use of the available channels for the rather chaotic conditions existing at present in the frequency bands allocated to high-frequency broadcasting. These draft plans did

not find general acceptance and considerable time and effort were spent in examining various proposals which were put forward. The technical standards upon which the plans were based and an increase in the width of the frequency bands advocated, were in order to meet satisfactorily all the requirements submitted by countries. Neither of these major proposals was adopted, nor were the various countries with a future to be reduced in their stated requirements, with the result that the Conference was unable to adopt the I.F.R.B. plans. It was therefore necessary to resort to other means of achieving the more orderly use of the high-frequency broadcasting band. The method finally adopted, which is a scheme of 'frequency management', is based on the concept of 'current usage', instead of the concept of 'requirements' forming the basis of the proposed plan. In the operation of this scheme, the I.F.R.B. will receive quarterly from each country the detail of proposed usage for the coming period, and, by co-operation between administration, it will produce schedules of operation by which harmful interference between transmissions will be reduced to a minimum. It is hoped that in the operation of this scheme over a period of some years a clear pattern of actual usage will emerge, allowing the production of acceptable plans on a realistic basis for the future."

"Technical Standards.-In view of the increasing congestion throughout the spectrum and the consequent need to employ the most efficient methods of operation, and to reduce the space occupied by emissions, and also any spurious emissions, the Conference adopted new standards for Frequency Tolerances and Spurious Emissions, wherever appropriate, these will be incorporated in the Board's Technical Standards."

"Entry into Force of Regulations.-The new Regulations, including the Table of Frequency Allocations, are intended to come into force on 1st May, 1961, with the exception of that section relating to the 'frequency management' of the high-frequency broadcasting bands, the first schedules of which became effective on 4th September, 1960. On 19th May, 1960, the I.F.R.B. announced that it had decided that it would establish a special Committee to conduct a review of frequency allocations to all classes of approved users in Australia, and to study the effect of the new Geneva Conference Table and its relevance to Australian conditions in the radio field."

FEDERAL QSL BUREAU

Would all concerned please note that at 15th September, 1960, the QSL Bureau was changed as follows: AB, BH, CH, CM, DE, GB, GC, GH, IB, ID, IT, JH, JM, KJ, NB, OF, PM, RL, SC and WH. (This information from the QSL Bureau to the QSL Bureau.)

Advice is still awaited re disposal of QSL cards for VK0CK, JC, JH, KJ, NB, RL. It is hoped that the QSL Bureau will have with Antarcia could secure the required information and pass same on to undersigned.

GWSP advises that he finds the W.L.A. 1960-61 VK QSL Book is a most useful and most useful, and wishes to thank VK5WS for sending a copy to him.

QSL cards from VK0RT have now been distributed according to Bill VK0EG. (Any further queries re this Antarcia station cards can be directed to Bill.)

Noted, the Nigeria QSL Bureau address is now: C/o. Dr. M. Dransfield, Reg. Research Station, Samaru/Zaria, Nigeria. From 1st August, 1960, all QSL cards should be addressed to the Nigeria QSL Bureau address unchanged at Box 162, Soko, Koro.

Eric Trebilcock (BERS196), Act. QSL Mgr.

NEW SOUTH WALES

An extremely interesting lecture was delivered by Mr. Peter Griffin, of the Department of Civil Aviation, on 22nd September, 1960, at the meeting in Science House. The subject was 'V.h.f. Omni Range (VOR)' and Peter explained the system to an interested audience. The vote of thanks was moved by Max 2MP. Divisional activity since the time of writing the last notes has been highlighted by the Hunter Branch, which has been active in the South West Convention and the V.h.f. Spring Field Day. The Hunter Branch and v.h.f. activities are covered in this issue of the magazine, so only the South West Convention will be reported by this contributor.

The Eighth South West Convention was held over the holiday week-end of October 1 and 2 at Wagga. Senior Vice-President, Max 2MP,



"Better put it back together: here comes the Supervisor."

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Stuart 2ZDF, our liaison officer, rose to thank all those who helped in the slow Morse transmissions and to pay tribute to our Honorary Secretary, Gordon Sutherland, on whose shoulders 99.9 per cent. of the work of this Convention fell. Finally, Lionel thanked all those for their presence and closed the function. As far as I can determine, the following were present: VKs 3ZS, 2IJ, 2ALJ, 2KQ, 2ANU, 2VU, 2AQR, 2AHT, 2GS, 3KZ, 2YB, 2ABT, 2CV, 2VL, 2ZMO, 2ZJR, 2AEE, 2RJ, 2AYL, 2ZNV, 2AUH, 2GV, 2AHA, 2AED, 2AKX, 2ZL, 2ZDF, 2AIM, 2MK, 2XT, 2RU, 2ALA, 2APQ, 2EO, 2CI, 2ADS, 2SF, 2SA, 2CS, 2AQR and Messrs. Hamilton, Bailey, Sutherland, McIlrae, Foster, Robertson, James, McLachlan, Russell, Simkus, Riley, Pollock.

Next day the Blackall's Field Day was enacted where for once it forgot to rain, but the wind was cold so Jack Hamilton was not kept as busy as he had hoped—however, you did a good job, thanks Jack. Unfortunately having visitor trouble, I have not all the results as I left before they were available. However, 2ZDF won both 144 hunts, runners-up being 2AHA and 2ANU in the first, with 2ANU and 2RJ in the second. Bill 2XT won a 7 meg, something or other. 2AIM's spouse naturally won the ladies' quiz. I know that because she rang me from Dora Creek to tell me, but who won the others I haven't a clue. However, for those interested the information will be in my next month's edition. There were several at Blackalls who were not at the dinner and these included two members of the Goon Show in the persons of Arthur 2ZF from Inverell and Bill 2ZD from Sydney—they were joined by Ivan 2AIM, 2ZL and 2AQR.

Next Branch meeting at University of N.S.W., Newcastle, will be held on 11th November at 8 p.m.

VICTORIA

This month the notes are being written by John 3AKS, who has taken over from Peter 3IZ as Divisional Sub-Editor. In future, please send your notes, club notes, etc., direct to J. B. Battrick, Bayview Rd., Frankston; telephone is Frankston 33478, as John is also script writer for the weekly broadcast he would welcome all the news and views from VKS Division, both for the broadcast and "A.R."

Well, as I was rung up and asked to take on this job on the deadline day for copy, this month will be only a token effort. However, in future we hope to keep up a regular "newsey" column. Please let me have your news and views either on the phone, on the air, or by letter. No news, no notes—to keep me informed, please.

MONTHLY MEETING

This was attended by about 40 members and a visitor, Henney OZTH, from Copenhagen. Kel Cocking, VK3ZFQ, gave us an excellent talk on cascade converters, high frequency crystal filters and receivers generally. He plans to publish the results of his findings re these aspects of communication soon, so we'll look forward with interest to reading about toroids, pole-zero spacings, shape factors, etc., all of which have been included in the project Kel has been associated with over the last few years. Many thanks for a very fine business lecture. Sorry for you blokes in the country who couldn't get along; and sympathy to the fellows in the city who could have come, but didn't.

ANNUAL STATE CONVENTION

The Victorian Division's Annual State Convention will be held on Saturday and Sunday, 5th and 6th November at Maldon. An extensive programme for both days has been arranged. (See advertisement elsewhere.) Maldon is 84 miles from Melbourne, 11 miles from Castlemaine. Even if you can't make it for the two days, try to get there for the Sunday activities. Be seeing you?

ANNUAL DINNER

All VK3 Amateurs, and Interstate visitors, are reminded that the Annual Dinner will be held on 25th November at Scott's Hotel and an early reply to your invitation will greatly assist the organising committee.

This promises to be a gala occasion—be it! Hope you remembered to send back the slip off your ticket. Did you?

COUNCIL BRIEFS

Miss Foster, our Admin. Secretary, has left, but a worthy replacement has been found.

The necessary formalities to reorganise our Division's finance have been taken by Council. The original mortgage on the building has

been discharged and replaced by a loan from the Commonwealth Savings Bank.

That's about it for now, but I'll be chasing news, both for the broadcast and the notes—please keep me informed. I guarantee not to tell anything you send me nor omit it! I'll even keep copies of scripts to include in "A.R." How about that? It'll be nice to hear from you soon, zone correspondents.

EASTERN ZONE

V.h.f. activities will be the main feature of these notes for the present as your correspondent has yet to build t.v.t. generators for the lower bands. As was reported previously zone skeys are held on 2 mx every Thursday and Sunday evenings. The best effort to date was the 8 p.m. session on Sunday, 2nd Oct., when eight stations answered the roll-call. One item worthy of special note is that George 3ZCO, now at Koo-wee-rup North, was exchanging S8/9 signals with Peter 3ZDP and myself in Sale over a 90-mile path for several hours.

Other stations involved were 3DY in Maffra, 3ZAB in Traralgon, 3ZAQ in Warragul, 3ZBV in Morwell, and 3ZJM in East Newborough. Several of these stations have poor locations in the easterly direction and reflected path signals are used, particularly by Jim 3ZJM, for reliable contacts. 3ZJM is at the foot of the Haunted Hills and to work into Sale and Maffra he fires his 18 watts per medium of a 10 element yagi at Mt. Erica to the north east. Very steady signals off the mountains are received here normally running around 57.

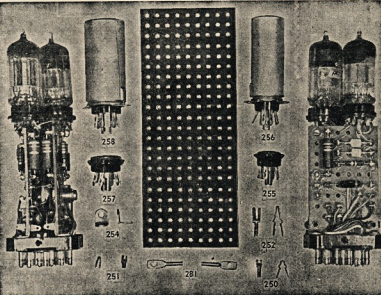
This is a point worth considering by those Melbourne stations who consider Mount Dandenong too big an obstacle in the Gippsland direction—ever heard of obstacle gain?

CHIF 3AIT has been very quiet on 2 mx of late—probably chasing more contest honours or new countries on the h.f. bands. He reports that the electricity supply here is to be connected so farewell to whining generators, flat batteries and filament switching.

3DY has become very active on v.h.f. and can be heard regularly looking from Melbourne stations on 2 mx. How about it you city folk, we want to keep him active on v.h.f. He will have 8 mx near very soon. I hear rumours that Morwell High School Radio Club is springing into action—hope to hear you fellows on the bands soon. The club activities are not limited

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to purely Amateur Radio and extend to quite a few fields associated with electronics. 3ZPD reports hearing Melbourne stations working across town on 80 mx, but unfortunately not looking at country contacts.

3FO has been worked by 3ZCG who now appears to have an ideal location for working both Malvern and Cippaland. Heard 3FO myself on 27th Sept. just above the very high noise level. The 2 mx gear is running here most evenings around 8 p.m. With the advent of warmer weather it is hoped to have as many as twelve stations in the 2 mx net and scrambles will be held on the third Sunday of each month from 1945K to 2000K. The Eastern Zone awakens, so let's stay awake! —JASW (ex-3ZBR).

WESTERN ZONE

Our Annual Zone Convention will be held in Rainbow this year. As yet, we have not selected a date as continued wet weather has compelled us to wait until the elements are more likely to favor us with a fine week-end.

Trev 3ATR (Warracknabeal) is at present in the happy position of having the S.E.C. power being connected to his property. Guess Trev will have his existing automatic a.c. supply connected so as to take over, should on those rare occasions the S.E.C. fail.

Keith 3AGW has completed his new rig and is now only waiting on the erection of antenna so he will soon be in "business" again. Zone hook-ups continue to be well patronised, so thanks a lot chaps for your continued interest.

SOUTH WESTERN ZONE

This month we are deeply concerned to learn that Leigh 3H has been taken very ill. The Zone wishes you a speedy recovery Leigh, and we are hoping that it won't be long before your cheery voice is back again on 40 mx. W.I.C.E.N. promises to progress but attendances are small due to perhaps the lure of the DX hands. Several stations were active during the heavy rains and demonstrated the fact that when the emergency arises the Net will be ready. Signals on 80 mx during the midday session were quite good and there should be no trouble covering the whole Zone area on this band at any time. Jim 3ABT has made tests on the 160 mx band using about 10 watts input and was read S8 and S9 here at Broadwater at night and daytime respectively. Receiving antenna was a 40 mx dipole. Noise level may be the problem on this band though. These 160 mx tests were made by an old friend whose signal has been conspicuous by its absence; that of Reg. 3APR. Reg's fire net, by the way, is one of those on 3,600 Kc, so he is no stranger to the lower frequencies.

An old friend blew into the Zone Net recently, one Bill 3AWZ. Bill had no trouble making his own watt sig heard all over the Zone, plus 3ABZ. Bill is married, very happy and promises a new rig on the air then. Happy holiday to you Chris 3AXU. Wot, no gear! Shammie 3BG and 3ADV both having water troubles and underfoot overhead. Neil has the s.b.g. going f.b. now and raking in the DX. Not so Brian, who is playing again with the 160 mx rig. Guess he will be back that one. Do you need all those frequencies for tuning that s.b. rig you're planning?

40 mx has been playing tricks down Colac way for Chris 3AXU and Gordon 3AGW, who were unable to hear each other and they are only two miles apart. Always the unexpected happens and guess who? Harry 3VKI on 80 mx with a T415.3. He has retreated with most

of his gear to the farm away from the city noises. However, Harry has found that farmers have their troubles too! His nice long vee beam produced such a racket with the wind blowing across it that the old lad went berserk after a fruitless search for the new bull!

DX is showing up again on 80 mx now and then and one f.b. QSO was made with Phil 3WZG with sig. reports 200 watts. Vix 3ABX has now a v.f.o. and expects to be more active. Tony 3WB has been persuaded to put the key in that f.b. rig of his and has produced a very nice signal. Look out next R.D. Contest!

Organising the Jamboree-on-the-Air has kept John 3ZFD busy. Eric 3ACV is still working below 2 mx, but that noise will went down there lately. Yet there are many with v.f. gear in the Zone. Mostly it seems up on the shelf.

The Zone Convention date has now been set for 19th and 20th November at Geelong. The Geelong Club are the hosts and should be a first class show as always.

Latest station to discard the carrier is that of Jack 3ALP. Jack came up with a watt or so which produced an s.b. signal, so what will be which in the final is added to the exciter? Rig is a phasing type to drive a ZL linear. John 3AMC was reported some time back to be about to discard his carrier for a d.b. set-up, and it is hoped that he is going even further and is about to eliminate both those frequency-wasting sidebands instead.

Just wondering what Casey was driving at last month. Must be as I guess, but was it briquets or bouquets OM? It should be pointed out that the final is added by the fire brigades in this State are owned and operated by the brigades themselves and not by the C.F.A. The C.F.A. has no Amateur activity, almost every country dwelling Amateur is a member of his local network and invariably provide their own equipment. The final is added by the brigade for the work only. Every Amateur within 100 miles of the recent big Gramplans fire was in the fight during the emergency frequencies. Amateur equipment is it on the spot to ease their frequencies could help.

The S.W. Zone W.I.C.E.N. has a backbone of the emergency frequencies. It has sent every emergency frequency used in the Zone's territory. Not being subject to the same limitations as fire brigade operators, the W.I.C.E.N. is prime for dealing with a bigger job over longer distances to provide any emergency communication needed whether by fire brigades, C.F.A. or any other.

In other fields, let us remember the whole business of radio for fire fighting was pioneered by Amateurs, much of the equipment, commercial and disposal, made or remade by Amateurs and the Amateurs are still experimenting with new ideas for fire work. We have an Amateur on the Rural Fire Brigades Communications Advisory Council, an Associate was recently President of the C.F.A., and three of the first handful of firemen to attend the Civil Defence are Amateurs and members of W.I.C.E.N. So, Casey, for the chance to publicise a little.

GEELONG AMATEUR CLUB

The S.W. Zone, VK3 Division W.I.A. Convention is to be held in Geelong on 19th and 20th November, 1960. Members of the Geelong Amateur Radio Club will be at the club rooms in Gheringherg Street to welcome visitors on Saturday afternoon. Geelong Amateurs will be "on the air" on 3.5, 7 and 144 Mc. to contact mobile rigs as they converge on the zone.

On Saturday evening, the Convention dinner will be followed by a general meeting of the zone. On Sunday a meeting of W.I.C.E.N. operators is proposed, along with numerous competitions and events of interest to all. Those who wish to take an active part should come prepared for h.t. hunts on 3.5 and 144 Mc., all-band scrambles, etc.

Accommodation should be booked with J. R. Barber (VK3AT), Carr's Road, Anakie, etc. Please include 100/- deposit with bookings. Listen to 3K3WI Sunday morning broadcast for more details.

QUEENSLAND

BRISSBANE AND DISTRICT

Any of you who read the letter in the "Let's Buy An Argument" pages of "R., T.V. & H." about "The Voice of the Past," who remember programmes for four years on 14.98 Mc. down in Victoria before being caught, will be interested to know that you will probably remember the same paper. You will probably remember

that, in 1937, we were able to get twenty transceivers which the Police found were surplus to their requirements; well, recently I had a phone call from the Police asking that I should supply them with the name and addresses of the members who drew the transceivers. When I asked the reason for this request, I was told that some "dunkopf" had installed a transceiver of this type in his tow truck and had transmitted on the Police frequency. I was later told by one of our members that the "dunkopf" was one of the ones we obtained, but the Police wanted the names "for the records".

It appears that this character was a regular "dunkopf" in his tow truck business and had realised that he would get business by listening to Police transmissions and going to the scene of accidents immediately. Well, if he had let us go that he would have been "apples", but temptation got the better of him and he had just to say his piece and confuse the gendarmes. For pet's sake, don't do anything like this because you will be caught for sure and you know what "penal clauses of the Wireless Telegraphy Act" means.

The Cotton Tree Social Sunday was a huge success and there was an official attendance of 63. This Field Day has decided the organisers to have more of the same type of functions in the near future. At the Cotton Tree, the ladies and harmonics and a wonderful time and they have suggested that there should be a country versus city XYL Rounders match at the function. The function was a country versus city tug-of-war and the country team won, but wouldn't agree to a re-match. Did you hear about the Australian Record that was beaten at the Cotton Tree Field Day? Someone told Vince 4VJ that someone was calling to be "talked in" to the location. He got into his car and went to a great deal of trouble to explain where the Cotton Tree was. He asked, "Where are you now?" and received the reply, "We are exactly four inches away!" Sure enough, the Cotton Tree was exactly four inches away from Vince's whip with a really tiny 7 Mc. transceiver built around transceivers and a whip. Vince 4VJ and "Chip" 4XR, are claiming the "shortest distance-ever" record QSO.

Stan, our Secretary, is still away as I write this and is now on his way down from the State. The function was a wonderful time. Tableland and, from what he has told me per letter, he has had a wonderful time. Now, for the first time, I am going to be in harness, my XYL and I are going to spend a couple of weeks at Coolangatta with our harmonics. She has given me strict orders that she must take it easy on her holidays.

Our little 6 mx Communicators have been doing sterling service lately. Firstly, they were used during the 6th June Flood in the Middle Island in the capable hands of Ross 4ZAT. Then

VICTORIAN DIVISION W.I.A.

ANNUAL STATE

CONVENTION

will be held on

SATURDAY AND SUNDAY,

5th and 6th NOVEMBER, '60

at

MALDON

PROGRAMME

Saturday (from 150 hrs. on):

Meeting (once on arrival at Maldon, Vic.) 9.00 a.m. at Maldon. 10.00 a.m. Maldon. 10.30 a.m. Maldon. 11.00 a.m. Maldon. 11.30 a.m. Maldon. 12.00 a.m. Maldon. 12.30 a.m. Maldon. 1.00 p.m. Maldon. 1.30 p.m. Maldon. 2.00 p.m. Maldon. 2.30 p.m. Maldon. 3.00 p.m. Maldon. 3.30 p.m. Maldon. 4.00 p.m. Maldon. 4.30 p.m. Maldon. 5.00 p.m. Maldon. 5.30 p.m. Maldon. 6.00 p.m. Maldon. 6.30 p.m. Maldon. 7.00 p.m. Maldon. 7.30 p.m. Maldon. 8.00 p.m. Maldon. 8.30 p.m. Maldon. 9.00 p.m. Maldon. 9.30 p.m. Maldon. 10.00 p.m. Maldon. 10.30 p.m. Maldon. 11.00 p.m. Maldon. 11.30 p.m. Maldon. 12.00 a.m. Maldon. 12.30 a.m. Maldon. 1.00 a.m. Maldon. 1.30 a.m. Maldon. 2.00 a.m. Maldon. 2.30 a.m. Maldon. 3.00 a.m. Maldon. 3.30 a.m. Maldon. 4.00 a.m. Maldon. 4.30 a.m. Maldon. 5.00 a.m. Maldon. 5.30 a.m. Maldon. 6.00 a.m. Maldon. 6.30 a.m. Maldon. 7.00 a.m. Maldon. 7.30 a.m. Maldon. 8.00 a.m. Maldon. 8.30 a.m. Maldon. 9.00 a.m. Maldon. 9.30 a.m. Maldon. 10.00 a.m. Maldon. 10.30 a.m. Maldon. 11.00 a.m. Maldon. 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Well, cheers for now and I'll see you after my holiday on the Gold Coast. 73 from 4PR.

TOWNSVILLE

Spring now about to give way to summer; conditions on the band changing and with the disappearance of winter it is noticed the southern boys are again frequenting the bands, only the old die-hards being active during the hibernating months. All I spoke to had hesters warming up the shack. DX on the bands is appearing once again, only takes a contest to get the crowded bands really busy. To come, winners the last week-end of the VK-ZL Contest phone section, just like the last R-D. Contest, every spot on the bands open being fully occupied.

As shown in Sept. "A.R." our worthy State Secretary Stan visiting the Cinderella and wealthiest part of the State arrived just in time to take the underdog trip to the far north. Stan met almost every local Ham, their shackles and others at a special meeting held in his honor. Paid great credit to the local P.M.G. Dept. in their delivery of local mail. He posted a letter to one of the boys at 11 a.m. and before 1 p.m. the student was calling on Stan at the Caravan Park. As I was in Atherton the night of the meeting, took the opportunity to listen to various comments next day. Appears no one was dissatisfied with the way Stan did only a few minor grumbles. He was certainly fed with Sugar Juice.

Met Stan in Cairns and attended a local get-together of the boys. Harry 40H came in from Mossman, upshot was formation of W.I.A. and the boys are now working on the boat, going and will ultimately hold A.O.C.P. classes. Good to see such old timers like Arthur 4SM, Claude 4ZY come along and give of their experience and wealth of guidance to the younger boys. Was very proud when Stan visited 4SM's shack and boy, did they turn the wheel of radio back to 1911! Arthur still has some of the original gear on the shelf and the boys are now working on it. While in the north, visited every local Amateur except 4BP, travelling by caravan.

The visit to ALEC 4MA, at Mt. Garnett, was very interesting and it was late getting shut-eye after discussing the I.T.U. and frequency allocations. The R.R.R.'s was the local ambulance committee and getting two-way radio for them in a very unsuitable location. Upon calling on Harry 4HK, he said that the R.R.R.'s had been complaining the days were not long enough. Slacken up OM, it's later than you think! Charlie 4GA is still batching and building a new 4000 watt transmitter. Good news is that Amstutz' Out at the National Station 4AT, Neddy 4ZBJ was held up for a ragchew. Did she use the rolling pin because of larval arrival home? Hope to see the Morse test next examination. Don't forsake the h.f. band altogether.

As I had not seen Frank 4FC for over five years, he was called upon and again time ran out. Can I blame him for the tyre I blew just after leaving the township of Ingham?

Does anyone ever read the Australian Call Book because as far back as the first copy, it shows W.I.A. membership fees for every State, also in the notes of the various Divisions in "A.R." around Feb., March and April your attention is drawn to the fact fees are due.

Very sorry to see in August "A.R." that Don
2NO not being in best of health and wishing
the Institute the best in the coming battle for
frequencies.

Hope the executive in Brisbane can prevail upon our worthy Secretary to write a screed on his visit to the various Ham shacks during his holiday. (How about it.—Ed.)

Congratulations to CHH 4QJ in Rome, forming a club and starting A.O.C.P. classes. Very sorry to report John 4DD in hospital again; hopes to be about very soon. Bob 4MF upholding our city honors on s.s.b. while you are off. Charlie 4BQ busy tuning his cubical quad. Next exam. will be tried for by the two remaining class members. Congratulations to John Sturgeon, one of the members who sat in for me.

Heard Hale, 4ZDG and Ross 4ZRV on 50 Mc.

Hears Dale 4ZDG and Ross 4ZTV on 30 MC. from Ayr, the others there busy building. Will Claude 4UX have some QRM soon? Bert 4LY made an appearance on this band recently, suffers lack of modulation. The only other locals heard were 4ZAK and 4ZDM. Japan coming through very well. Boys hope to work all Australasia the coming summer. Wishing each and everyone the best of everything in the coming festive season and may 1961 show further expansion in Amateur frequencies for citizens band and third party. 73, Bob 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division which is most united, was held in the clubrooms to a capacity audience, all of whom received their money for the month from the VK5 Treasurer, Mr. J. H. G. Gurr. The evening was opened by a lecture on New Guinea communications, delivered in his best style by Rob Gurr (VK5RO, ex-VK5GR), who is down on leave for a short time from his duties as VK5 Treasurer, and covered an immense amount of ground covering the set up of all fields of communications. He brought along a number of examples of the work done dealing with the local field, all of which were well received by the audience, and judging by the large number of questions fired at him at the conclusion of the talk, his preparation for the night was well done. The speaker was thanked by the speaker was proposed in a manner worthy of the dozen of the s.a.b.'s, to wit, Comps NEF, and the enthusiastic response on the part of the members of the Division. Rob Gurr will, after he resumes his duties back at VK5,

Nothing of extreme importance came up at the meeting, a letter from F.E. was read concerning the extracts from stations' logs being wanted, several matters of local interest came up for discussion, all of which have been mentioned in the last issue. The Monday morning session from SWI, and Tubby SNO, who was taken over my mantle for the moment, asked several interesting and pertinent questions of the Chairman, Lloyd SOK, on matters of interest to members. This question asking is a good thing, it keeps both the membership and the Council on their toes, and there should be more of it. A jolly good test to between a member and Council, no matter how phony, helps to lighten things up.

There were quite a number of visitors present at the meeting, including a couple of WAs, presided over by OZIEK and O'HANES. We had quite a talk with each other. I had the lecture, during which, at least I did the talking and they did the listening, but they enjoyed ourselves immensely even if they did not understand much of what was said. I quite surprised that I did all the talking because I am normally a man of few words and I felt somewhat reserved, perhaps resembling a shrinking violet, but I suppose there are times that even the worm will turn; what am I saying? Anyway, they both seem a couple of good blokes, and they were enquiring as to joining the Division. I must have said that Those who have not yet seen the new club-rooms will be agreeably surprised at their cosy seats, with a few more coas, and the Council are to be congratulated that their choice of meeting place so close to the city proper.

The meeting, closed at the witching hour of 11.15 p.m. and those present left for their couch, or should it be couches of virtue, well satisfied with the night's entertainment.

Talking of shrinking virtues and the VK4 scribble, I noted with some suspicion that the YK4 artist, Bob Arty, stuck out last month with his reference to "Casey" Fannies, etc. etc., etc. I am treating the whole reference with ignore at the moment, but with a bit of luck it could turn out to be a battle to the death, said he, poking out his delicate little pink fleshy tongue in a gesture of defiance.

Talking of VK4, and who would want to do that, reminds me of the fact that every R.D. Contest I always manage to contact my counterpart, VK4PS, and without fail he says, "the name here is Alan, what's yours?" I always say "my name is Warwick, better known as Pansy." His voice carries more than a tinge of hauteur as he says, "I prefer Warwick, rather than the other one." File upon you Alan, can you be thinking the worst!

Ken SAFJ and his wife, Joan, recently sent me a book entitled "The Book of Aircraft", apparently in an attempt to get 'sweet' with me. I checked it for time bombs, virus and other nasties, and found it to be what it came through with flying colours. I am thoroughly enjoying it, although I am only up to the first page because of the big words like propellor, altitude, jet, etc. but my biggest gripe is that I am not the author from my grandson Chris who emphatically insists that the book was sent to him. My XYL is of the same opinion and between the two of them I am having a torrid time, and I can only hope that Joan reads this and will come to my rescue and admit that they sent it to me. You did, didn't you, Joan?

Ben SBP and Jeff SNQ just returned at the moment of writing from their DX-pedition to the Northern Territory, and report an extra good time being had by all. Something like 900 contacts and 60 countries with the VK3 prefix. Understand the awards manager has gone into hard training in expectation of the number of certificates he will have to fill out to the DX stations in the near future.

Ian 5QX is still managing to knock off the odd new country on 21 Mc. telephony, and from the way he describes conditions on the band it would seem that 21 Mc. is coming good again. Here's hoping. Clive SPE has joined the s.s.b. gang, complete with a new tower and a "dangling special" 3 element beam for 20 mx. Another of these new terms, first Luke's "drooping doublet," and now a "dangling special." Could it be that they are having a shot at me?

Cyril 5DY pops up at various times with an f.b. signal and never seems to be stuck for anything. Cyril on my bedded knees, in posture of supplication, "beseech you, exhort you, what about that article for the magazine. Puffing and panting I rise to my feet with difficulty, and with a look in my eyes, one green and one turquoise pink, that would melt a heart of stone, I say again, what about that article for the magazine!"

Don 5TM appears to be so busy with E.F.S. activities that he appears very little on the bands. Of course the Joker has a bit of a box and could be on the air when we sleepy mortals never listen. Tubby SNO is seriously thinking of putting up his tower again, as he is not going to move away from his QTH as previously reliably reported in these columns. I hasten to say this because so many rude people seem to think that the VK5 notes are more imagination than fact. How low can they get?

Ron SFY is very busy with the many duties associated with the secretaryship of the now world-famed Elizabeth Radio Club (oh well, I have to slap it on a bit, if I don't, those wise men from over the border won't know that VKS is that far out in front), anyway Ron has issued 20 Elizabethan award certificates to date and is expecting many more applications. He has an order with the printer for another 1000000 copies, well 100000, well 1000, well 10 anyway.

Keith SEJ is now permanently based at Woomeera, but manages to pay a visit home to Elizabeth now and again, although no details of any activity from him when he does come home. John SEV is still commuting to and from Woomeera, but finds time to use his pen and paper to produce a certainly my copy of the respondent describes as a la 5KU style. This somewhat has me tricked, as on the many times that I have been in the shack of Gordon 5KU, I have needed a compass and a road map to get up to the point. Now I know that at the point, Harry SEU is going strong with his 4 element version of the G4ZU. No details of the contracts made, but you know these modest Elizabethan Amateurs.

Joe SJO heard in QSO with David SDS. Aye, it's me, Dr. Mac, on 7 Mc., and taking a break from the 500 Mc. band. I'm sure you and I are both in the pink, which is as it should be. Hughie 5BC according to rumour, is down here from Derrit on what I presume is annual leave. I'm sure he'll be back in the next few days on 6 mx fairly consistently. According to rumour he is temporarily based at West Beach, where he'll be working with the 500 Mc. set, he's shutting up his rumour box, it might only be a rumour. Wally 5DF has not been very active on the bands this month, although he's been on the 500 Mc. band a few times. I've had back session on Sunday mornings. He has the family auto-mobobble down in pieces at the moment, preparing for the summer, and the 500 Mc. band. I'm sure you'll have any parts over, Wally? I always do.

Comps SEF heard at the Sunday morning
call-backs, and following the instructions of
Gordon SXU I turned this up, turned this
down, adjusted this, and adjusted that, tossed
up to see if he was using the top or the
bottom, and all I succeeded in getting was the
noise from TWI. I don't know, couldn't they
inveise some method of putting in a switch
into this s.s.b. to enable the common herd
like myself to at least hear one little teeny,
weeny word!

Ken SBS heard saying farewell to all on Mc., and also saying how sorry he was to be going back to G-land. His call at home wife G3HRY and he is keen to contact us from there. Nice to have met you, OM; come again. Luke 5LL busy putting up a new pole and has abandoned his good and faithful Windom in favour of a "drooping doublet," his words, not mine. In my long sojourn on this earth I have heard of a lot of drooping objects, but this is the first time I have come in contact with a drooping doublet; elucidate Luke.

Ken 5KC heard on 7 Mc. the other Sunday morning in a highly technical discussion concerning Q5'srs, 14th edition of Handbooks, xtal grinding, and 6 mx s.s.b. I got off at the next stop when the s.s.b. came up, realising too late that he was in QSO with the Influence (5EF) at Gawler. Frank 5MZ is apparently

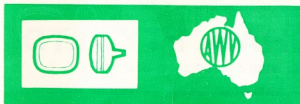
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THE MAN SAID REPLACE IT WITH A NEW RADIOTRON PICTURE TUBE



I'm a grandmother, and, although my eyesight isn't quite what it should be, I always enjoy watching my favourite television programmes. Of course, I haven't the faintest idea how television works, so when the set broke down last week, I called the Serviceman and asked him to fix it.

He told me that the set needed a new picture tube, so I told him about the trouble the old tube had caused to my eyes and of the headaches and eye strain brought on by the over-bright glare of the picture tube. He said the tube with the very best picture was, in his opinion, the one most easy on the eyes, and was just what I wanted. Naturally I agreed, so the man said, "Replace it with a Super Radiotron Picture Tube."



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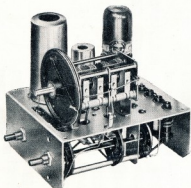
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